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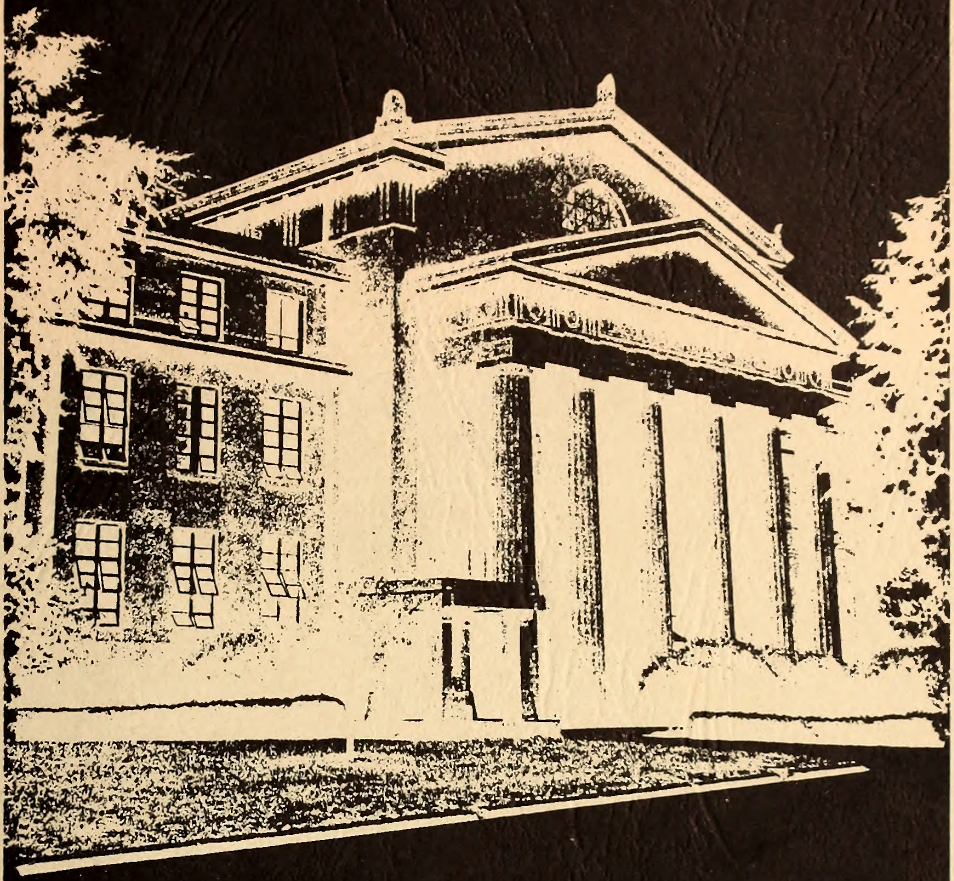

LINCOLNTON, NORTH CAROLINA

LAND USE SURVEY AND LAND DEVELOPMENT PLAN

LINCOLNTON, NORTH CAROLINA

LAND USE SURVEY AND LAND DEVELOPMENT PLAN

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PREPARED FOR:

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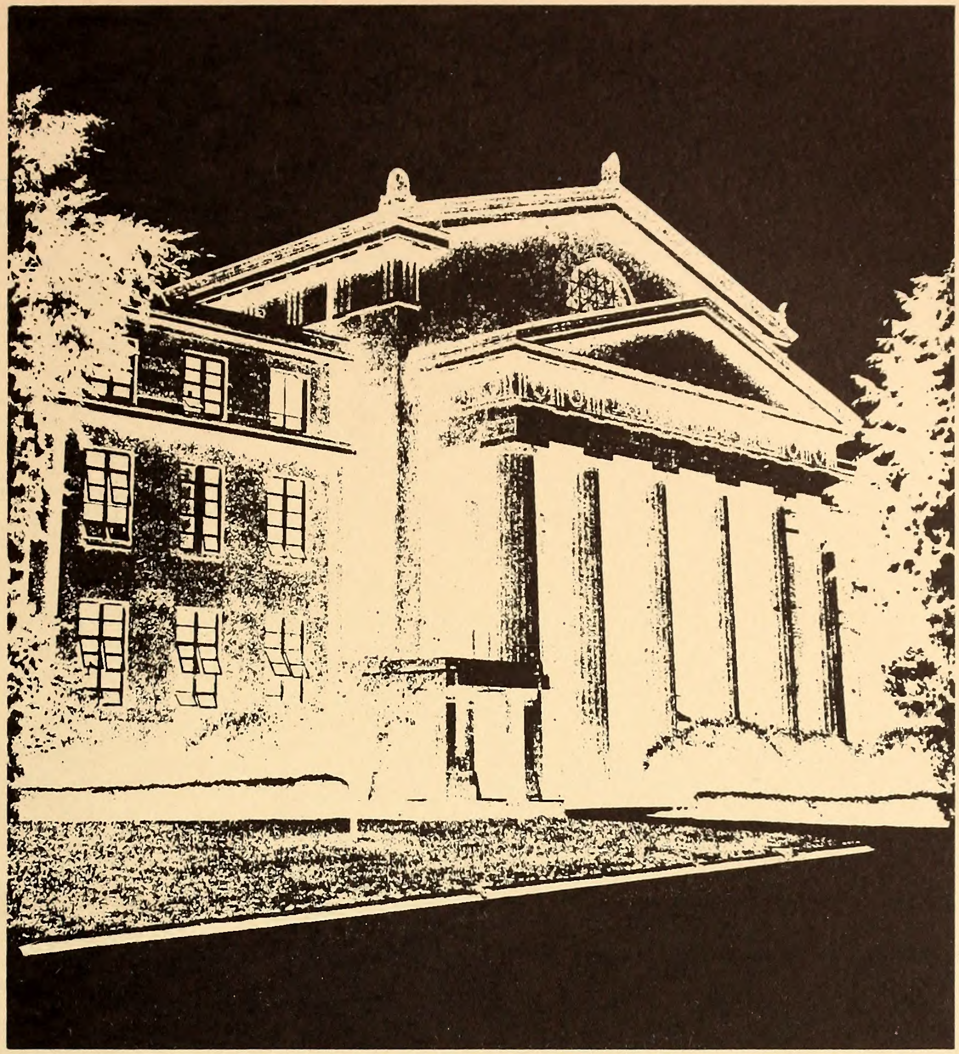


LINCOLNTON, NORTH CAROLINA

INTRODUCTION

Planning Legislation in North Carolina

G. S. 160-22

"Every city and town in the State is authorized to create a board to be known as the Planning Board, whose duty it shall be to make careful study of the resources, possibilities and needs of the city or town, particularly with respect to the conditions which may be injurious to the public welfare or otherwise injurious, and to make plans for the development of the municipality ..."

CHAPTER I

INTRODUCTION

In April of 1964, the Town of Lincolnton contracted with the Division of Community Planning for technical assistance in planning its town and the area within one mile of its corporate limits. Under this contract the following will be done:

Base Mapping
Land Use Survey and Analysis
Population and Economic Study
Land Development Plan
Zoning Ordinance
Subdivision Regulations

These studies are being partially financed through an urban planning assistance grant from the Housing and Home Finance Agency of the United States Government under the provisions of Section 701 of the Housing Act of 1954, as amended. To date, the base mapping has been completed, giving Lincolnton, for the first time, an accurate to-scale map of the town and its environs. This map should be a tremendous aid in coordinating future facilities and utilities that the town may undertake in the coming years. The Population and Economy Report has been completed and is ready for distribution. The land use survey and analysis has been completed, and from this the future land use will be projected.

This report will discuss all types of problems concerning the physical layout of the town. Problems will be analyzed in detail, and proposals will be given for all problem areas. For example, proposals will be given for solving traffic problems, for attacking blight in neighborhoods, and improving neighborhoods, etc.

The citizens of Lincolnton will see that the physical layout of their town can have a profound effect on the economic base as well as on their mental outlook on life. Through planning and coordinating the following areas -- residential, cultural, commercial and industrial -- Lincolnton can be a better place in which to live, work, raise children, etc. Therefore, in order to do this, a lot of time and effort has been spent in Lincolnton analyzing the present use of land and how it is composed.

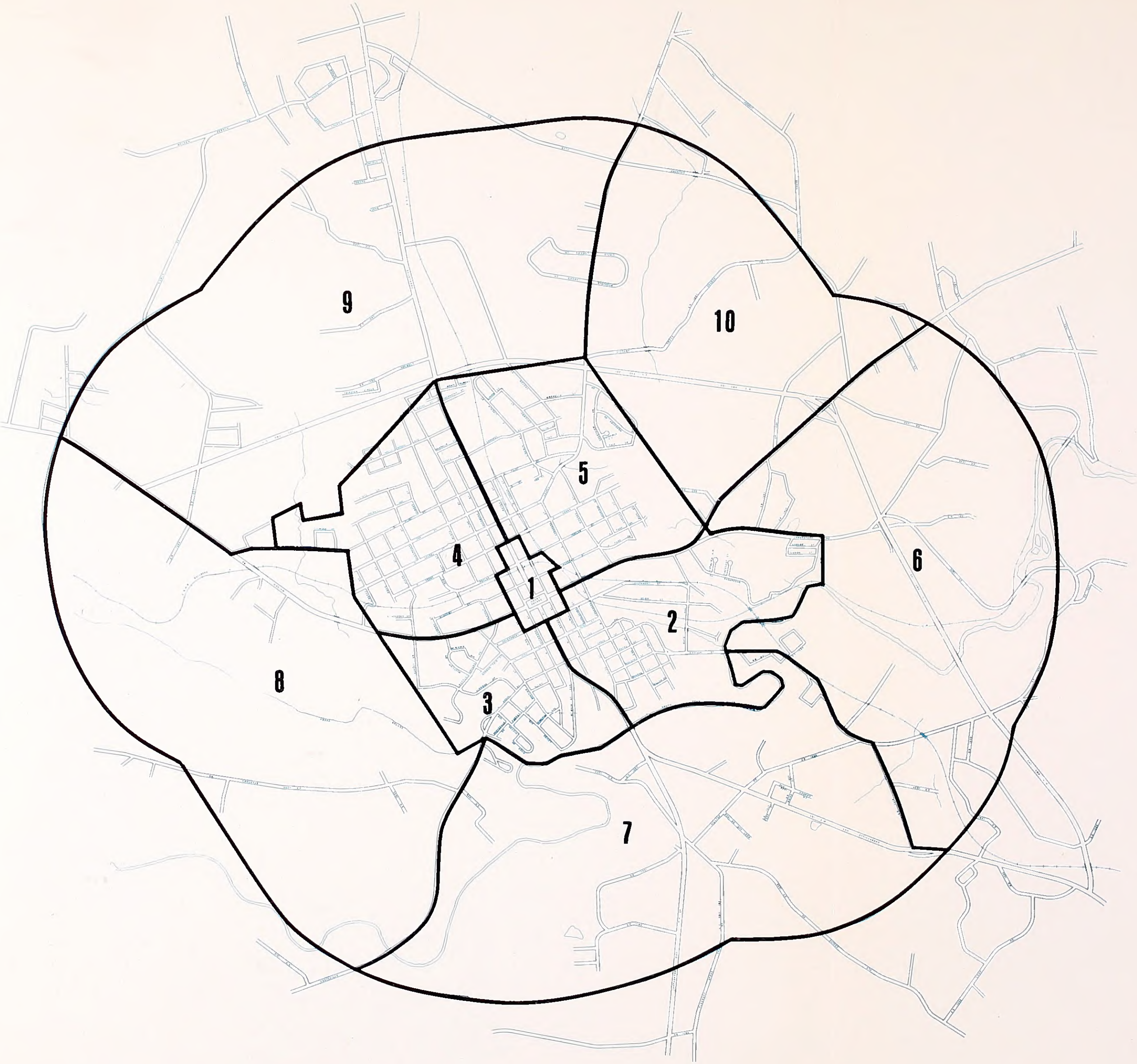
PURPOSE

The purpose of this study is to provide the background and guides on which good planning is based so that Lincolnton can be planned for the future years. This report will analyze the existing land within Lincolnton and the land within one mile of its corporate limits. Principles and standards of good land use planning will be set forth with other recommendations and priorities for developing Lincolnton's future lands.

METHODOLOGY

The planning area includes the corporate limits and the one mile fringe area which surrounds the town. This area has been divided into ten "study areas", five of which compose the corporate limits and the other five compose the fringe area around the town. These ten study areas were chosen because of their shared or unshared characteristics. Natural boundaries, such as rivers, creeks, roads, property lines, etc., were used for delineating the ten study areas. Land use and housing characteristics were collected in the field and then transferred to the base map. Each study area was planimetered to get its acreage for each major land use classification, and from the measured acreages percentages were figured and analyzed. The figures and percentages do not mean much by themselves, but when compared to each other or to another study area, and even other similar towns, the percentages become realistic and have more meaning. From these figures and percentages future land use needs are estimated. This gives a basis for the Land Development Plan. The Land Development Plan is a general guide for the town's growth. It is the framework for the future and a guide for setting up the long-range financial program. It can also be used as a guide for future land owners and developers by showing them expected trends of future growth. (Map 1 shows the Lincolnton Study Areas.)

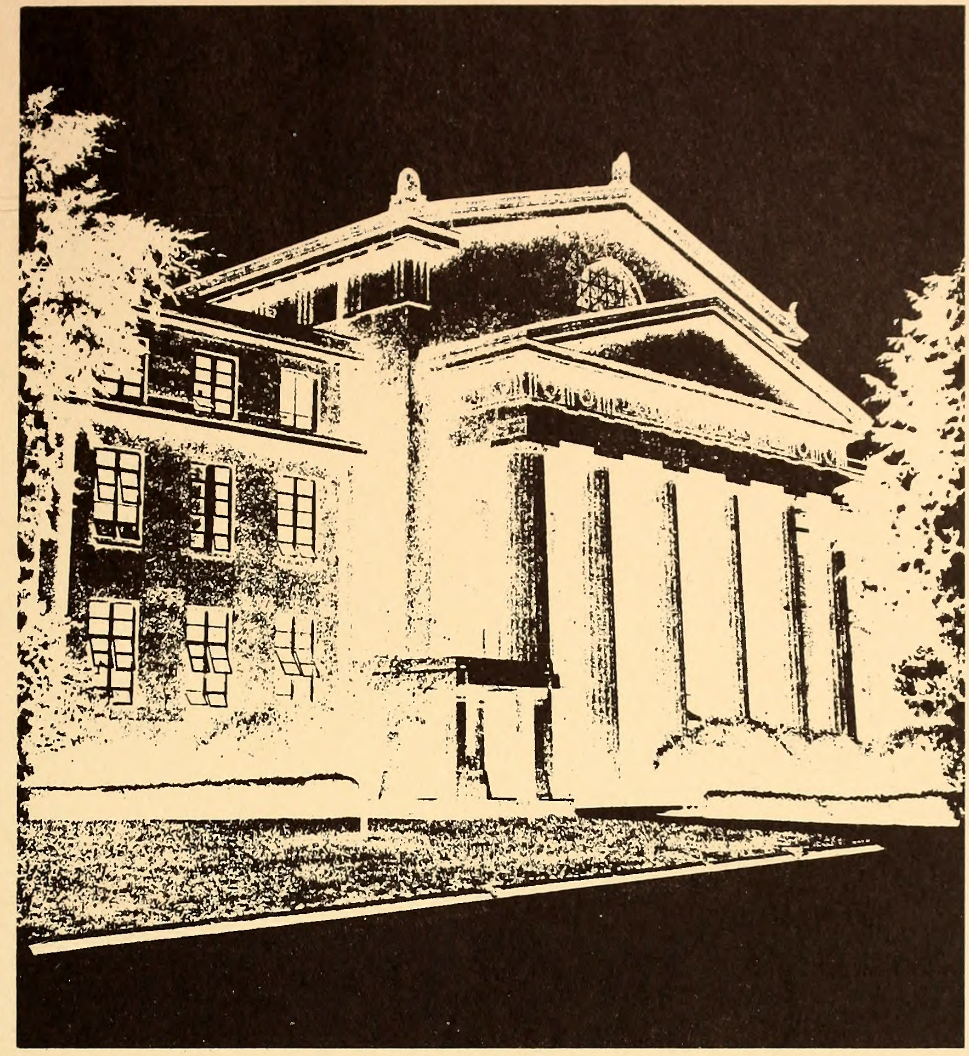
STUDY AREAS



LINCOLNTON

NORTH CAROLINA

MAP-1



LINCOLNTON, NORTH CAROLINA

BACKGROUND FACTS

CHAPTER II

BACKGROUND FACTS

HISTORY

The Town of Lincolnton was named for Benjamin Lincoln, who achieved fame at the time of Cornwallis' surrender to Washington at Yorktown. Lincolnton was settled largely by German and Scotch Protestants seeking religious asylum. These thrifty pioneers have left their stamp on all aspects of community life.

Lincoln County originally embraced the present counties of Catawba, Gaston, half of Cleveland, and, after 1779, a part of Burke. Lincoln County was established along with Rutherford County, out of Tryon County, in 1799 when that county was abolished -- reportedly because the name of Governor Tryon had become odious to Revolutionary patriots. Cleveland, Gaston and Catawba were carved from this area, but voted with Lincoln until 1854 when Lincoln was allowed her own representatives.

The Battle of Ramsour's Mill in June, 1780, was fought within the present town limits of Lincolnton. Had this battle not been fought it is very probable that America would be today an English Colony. This seemingly insignificant battle, to which little note or credit has been given, directly set the stage for the victory over the English at Kings Mountain and the subsequent surrender of Cornwallis at Yorktown, Virginia.*

THE SETTING

Lincoln County, North Carolina, lies in the south-central part of the western half of the State. The County is bounded on the north by Catawba County, on the east by the Catawba River, which separates it from Mecklenburg County, on the south by Gaston County, and on the west by Cleveland County. Burke County touches the northwest corner. The greatest length of the County east and west is about 30 miles, and the average width about ten miles, north and south. The County comprises an area of 305 square miles, or 195,200 acres.*

---

*Industrial Locating Data, Lincoln County, North Carolina, October, 1962, The North Carolina Guide, Edited by Blackwell P. Robinson, Chapel Hill, The University of North Carolina Press

Accessibility

The Town of Lincolnton is located on the south fork of the Catawba River and at the junction of North Carolina Highways 27 and 150, and U. S. 321. Lincolnton, with a population of 5,700, is the only incorporated town within the County and is the County Seat. An important trading center from the early history of the County, it still occupies this position. The town is within a twenty-minute drive northward to the newly constructed four-lane Interstate Highway 40, which connects Asheville with Winston-Salem and Greensboro. It is only a twenty-minute drive southward to the new Interstate Highway 85 for connections east to Greensboro, Durham and south to Greenville, South Carolina, and Atlanta, Georgia. (See Map 2.)

The town is also served by both the Seaboard Airline Railroad and by the Carolina and Northwestern Railway Company, a branch of the Southern Railway system. The Douglas Municipal Airport in Charlotte is within a 45-minute driving distance and provides 75 daily scheduled flights by Eastern, Souther, United, Delta, and Piedmont Airlines to all parts of the country. The Hickory Airport is about 17 miles away, to the north of Lincolnton, and is equipped with control tower and landing facilities for two-engine aircraft.

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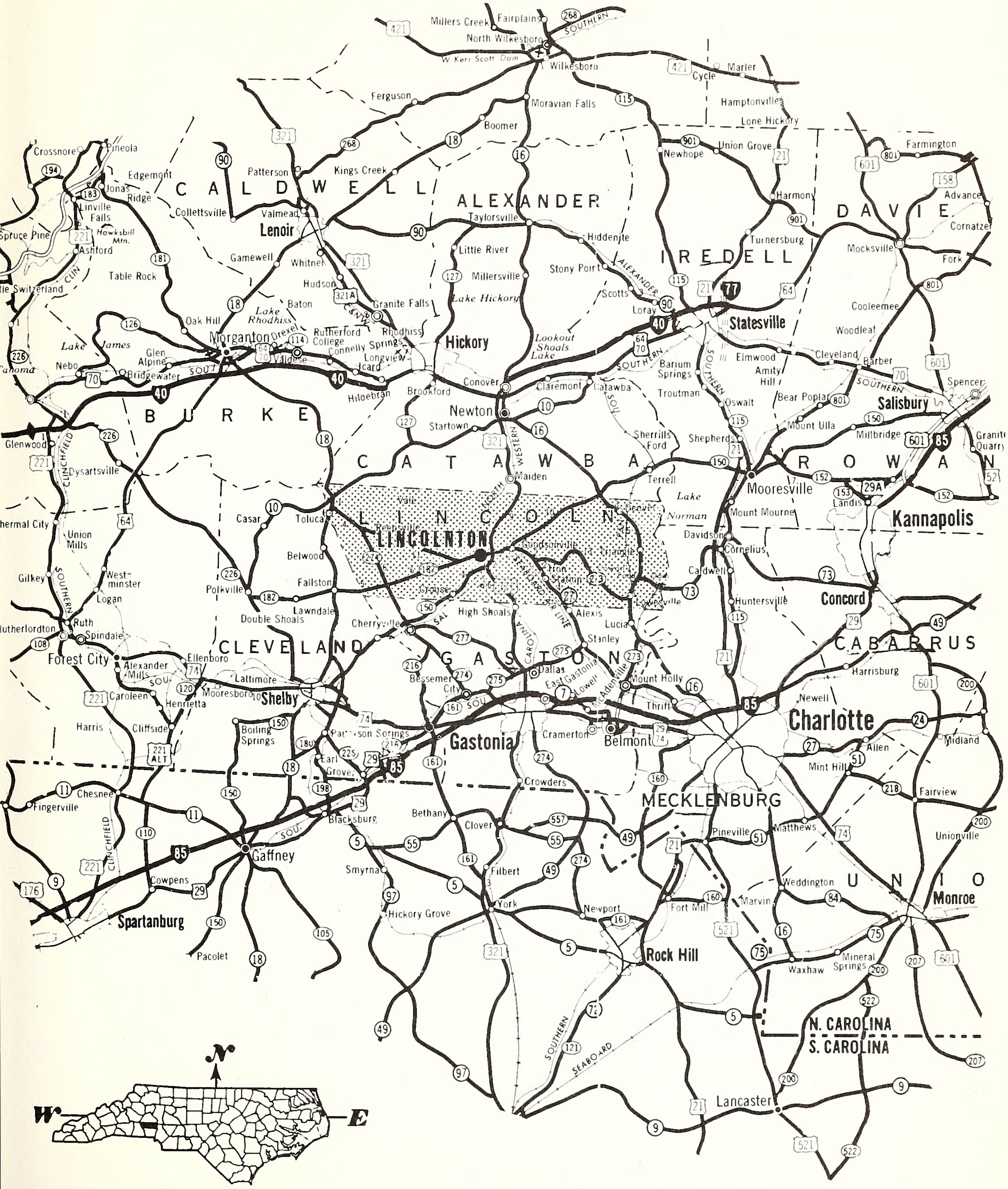
*U. S. Department of Agriculture, *Soil Survey of Lincoln County*, N. C., 1916

LINCOLNTON
NORTH CAROLINA

REGIONAL SETTING



MAP-2

Topography

The general topography of the County is rolling to hilly, with ridges and small valleys. The tops of the ridges in general have an elevation above sea level ranging from 800 to 1,500 feet. The highest altitude is in the northwest corner of the County and the lowest is in the southeast. The deepest valley in the County is that of the Catawba River near the Gaston County line where the river lies only 650 feet above sea level.

The one factor which influences the pattern of development in Lincolnton greater than any other is topography. A large percentage of the land in the planning area has slopes greater than 15 per cent and in some instances (on the north side of town near the Battleground School) slopes exceed 25 to 30 per cent. Other excessive areas for slopes are on the northwest side of town between West Main Street and South Fork River and along the river banks. Slopes of 25 per cent or more are also found on the north side of the Hollybrook Cemetery. The two highest areas of elevation -- approximately 900 feet -- are located between Sumner Street and McBee Street and Alexander Street and Sumner Street. The lowest elevation -- between 740 and 750 feet -- is found along the banks of the South Fork River.

Flood Plains

South Fork River and Clark Creek are the two major sources of possible flood waters. Both the river and the creek and some of their tributaries have flood plains of varying widths for most of their length. The flood plains are relatively flat and are subject to periodic flooding during the months of June, July, August and September. Therefore, these areas are not suitable for any type of urban development except recreation. Map 3 shows areas susceptible to flooding.

Natural Drainage Areas

The largest of five natural drainage areas in the planning area is Clark Creek which drains the area on the north side of town. This creek takes drainage from the Hollybrook Cemetery area and from around the water plant. This area ties in with Clark Creek on the north side of the Battleground School area. Clark Creek finally drains into the South Fork River on the west side of River Drive. The other three outstanding drainage areas are in Study Area 10 on the south side of town. They take drainage from the Country Club area, Crestview Area, the proposed Abernethy subdivision and the whole south side of town starting along Laurel Street down to U. S. Highway 321-A and through Crescent Circle eventually to the South Fork River.

Climate

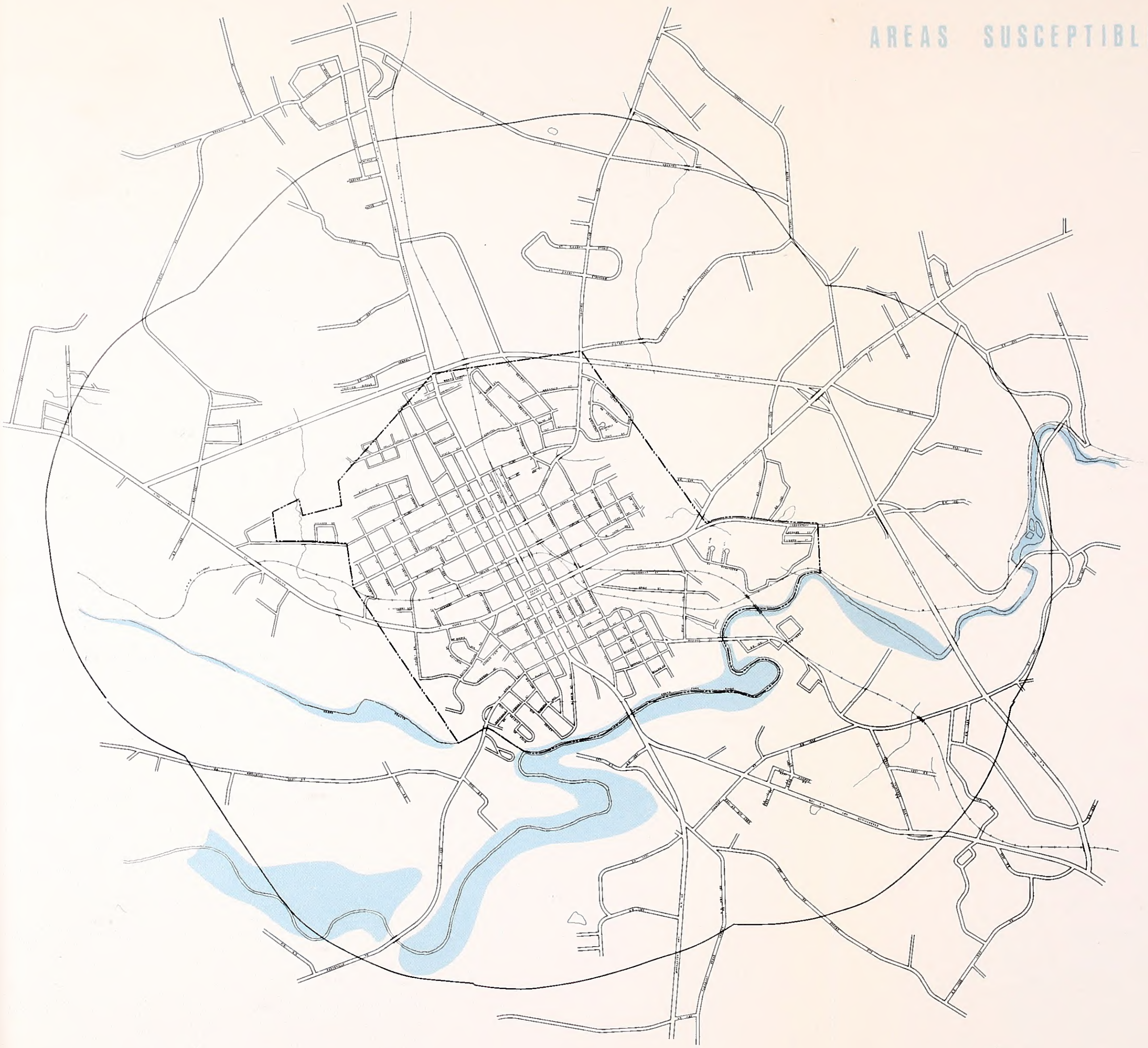
Lincolnton is enhanced by an average altitude of approximate 900 feet. Its close proximity to the mountains immediately westward, which regulate extremes in heat and cold, gives the town an annual average temperature of 58.6°F. There is a negligible snow fall annually measuring approximately eight inches. The County has an average annual rainfall of 48 inches and an annual average relative humidity of 66.5 per cent. There is a frost-free growin season of 194 days. Heating is required generally from October to April.

The prevailing winds blow from the southwest seven months out of the year. Only in April, June and October does the wind blow from the south. In September the wind blows from the west and in November the wind blows from the northwest. Therefore, th prevailing winds should be taken into consideration when locating offensive uses such as incinerators, abbatoirs and any industries which emit smoke, odor, noise, etc. If this is done, the citizen of Lincolnton will have a healthier town in which to live.

Soils

The soils of Lincoln County lie mainly within the Piedmont Plateau region. All the upland soils are residual in origin, having been derived on site from the weathering of the various rock formations. The rocks underlying the greater part of the County

AREAS SUSCEPTIBLE to FLOODING



LINCOLNTON

NORTH CAROLINA

MAP-3

are closely related, but show some marked differences, and the soil materials resulting from their disintegration and decay are even more varied in character. The dominant rocks from which the soils have been derived are Granites, Gneisses, Schists, and imperfectly crystalline slates and diorites. The Granites and Gneisses have by far the widest distribution and underlie perhaps 80 per cent of the area of the County. These rocks are composed mainly of Quartz and Feldspar with some Mica and Hornblende. These formations, once they had weathered, give rise to the Cecil and Appling series of soils.

Northwest and east of Lincolnton, southwest and south of Kidville, and in the northwest corner of the County there occur mica schists and imperfectly crystalline slates, the latter having a pearly, lustrous appearance and showing, on decomposition, shades of gray, blue, pink and purple. Within the southwest part of the County are small areas of diorite, a drab-colored, hard, heavy rock. From this the Iredell series has been derived.

The County of Lincoln is characterized by some 12 different types of soils, several of which are predominant within the Town of Lincolnton. The following soils are found in Lincolnton:

--Congaree Silt Loam

The surface soil of the Congaree silt loam is a brown or reddish-brown silt loam, grading at about six to ten inches into a light-brown compact silt loam or silty clay loam which continues downward to about 20 to 30 inches. This type of soil lies only a few feet above stream channels, and this position, together with the flatness of the surface, renders drainage poor in places.

--Louisa Gravelly Loam

This type of soil is a brownish, grayish, or reddish-yellow loam to fine sandy loam, ranging in depth from six to twelve inches. The subsoil is a light-red friable clay with a greasy feel caused by the presence of an abundance of mica scales. The clay subsoil occasionally extends to a depth of three feet, but usually grades into rotten rock at about 20 to 30 inches. In places the rotten rock appears at the surface. This type of soil appears in a small area north of Lincolnton near Clark Creek. It is more widely developed on both sides of the South Fork of Catawba River, south of the Laboratory, including the station of southside, and in a few small spots southwest of Lincolnton. The permeability is from poor to average and in many cases, questionable. Boring should be made to determine the soil permeability.

--Cecil Gravelly Loam

This surface consists of a gray, reddish-yellow, or light-brown loam or fine sandy loam carrying from 20 to 50 per cent of fine, angular quartz gravel, together with some coarse sand. Subsoil begins at six to twelve inches from the surface and is a stiff red clay containing some gravel and sharp, angular sand, in addition to small flakes of mica. This type of soil is distributed in a broad belt extending from the County line south of Crouse to Lincolnton and beyond. This type occupies topographic positions ranging from stream slope to broad, gently rolling ridge crests. It is generally well-drained and in some places the drainage is excessive. Therefore, this type of soil would be good for septic tank installation.

--Appling Sandy Loam

This type of soil is a gray or grayish-yellow loamy sand or light sandy loam to a depth of about six inches. Then, a more intensive yellow or light-brown sandy loam is reached, which extends to 10 to 15 inches. The subsoil consists of a mottled-yellowish-red or reddish-yellow sandy clay or friable clay which usually reaches a depth of three feet, or more. One of the largest and most typical areas where this type of soil is found is northeast of Lincolnton and some patches on the southwest of Lincolnton. Drainage is well-established, but rarely excessive.

--Cecil Clay Loam

The surface soil of the Cecil clay loam is mainly a brown or red clay loam or loam ranging in depth from about five to eight inches. The subsoil is a red, stiff clay, moderately brittle when dry, but sticky and slightly plastic when wet. Cecil clay loam is the most extensive soil in the County

> and occupies topographic positions ranging from level to gently rolling ridge crests or divides to dissected and broken inter-stream country. Drainage is well-developed and in places, excessive. In the residual upland types there are strips of alluvial soil along the streams. This material has been washed from the Piedmont Plateau and deposited by the streams. The first-bottom soil is classed in the Congaree series.

Map 4 illustrates the soils in Lincolnton and the one-mile fringe area. The following table gives the name and the actual and relative extent of each of the soil types mapped in Lincoln County:

TABLE 1

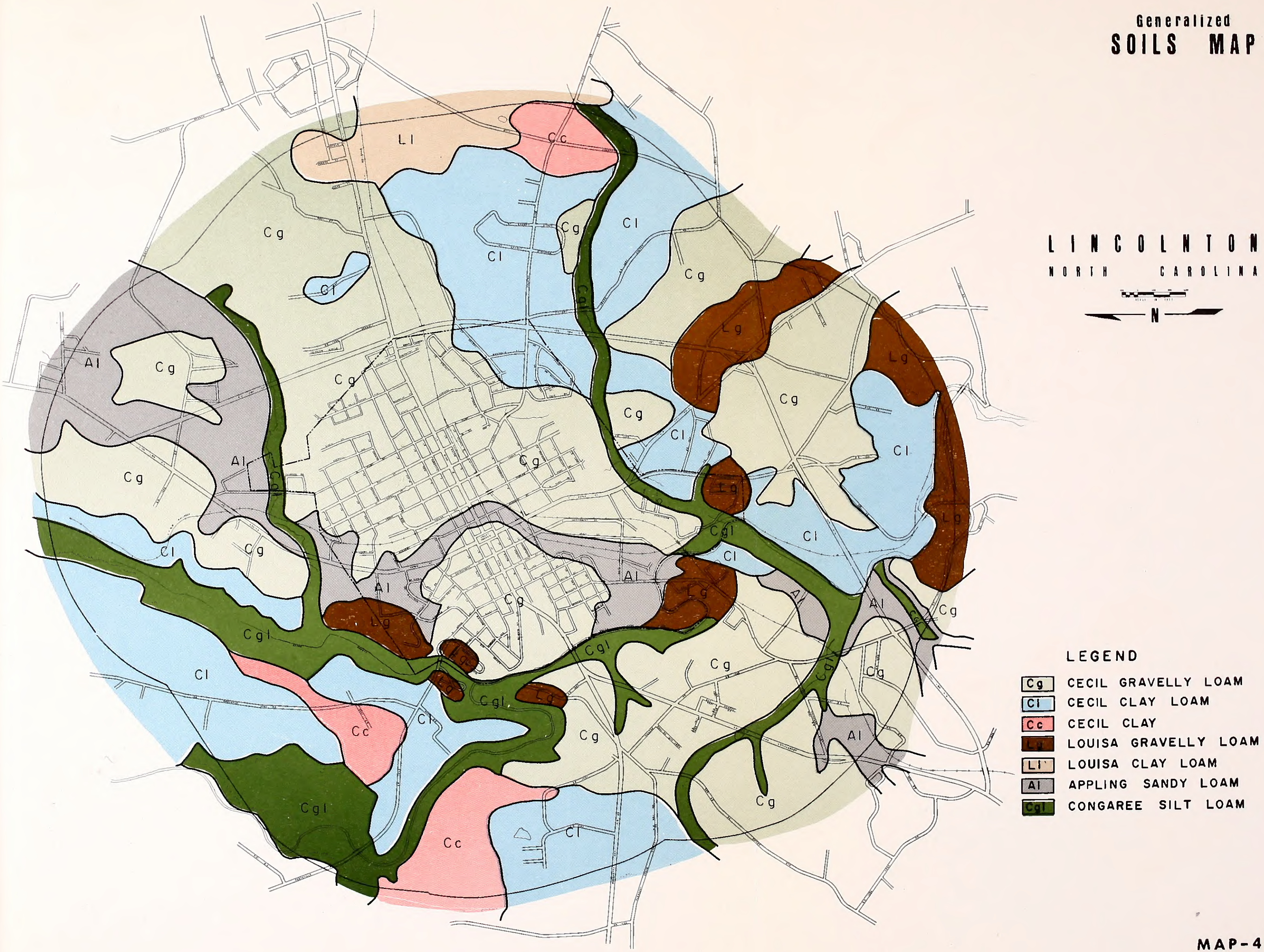
AREAS OF DIFFERENT SOILS

Soil	Acres	Per Cent
Cecil Clay Loam	77,056	42.8
Hilly Phase	6,400	
Cecil Fine Sandy Loam	25,152	12.9
Louisa Gravelly Loam	24,064	12.3
Cecil Sandy Loam	22,912	11.7
Congaree Silt Loam	13,696	7.0
Cecil Gravelly Loam	8,320	4.3
Cecil Clay	8,128	4.2
Appling Sandy Loam	5,120	2.6
Louisa Clay Loam	1,920	1.0
Louisa Clay	1,408	.7
Iredell Clay Loam	1,024	.5
Total	195,200	100.0

Source: The Bulletin of the North Carolina Department of Agriculture, 1916.

Generalized
SOILS MAP

LINCOLNTON
NORTH CAROLINA



MAP-4

PUBLIC FACILITIES

CITY HALL

The City Hall of Lincolnton is located off East Main Street. This particular building is an old, two-story frame house which is antiquated and inadequate in terms of space. Within this building most of the town's functions take place. This particular building holds Lincolnton's Police Department, Chamber of Commerce, Town Clerk, Treasurer and other municipal offices which make Lincolnton function as a town.

The Police Department is in need of more room in which to operate, as well as the other municipal offices. The enlargements to each staff, their growing record system, plus new equipment, have made it necessary to use all available space within the building. In the future years ahead, as concerning space requirements, the town will have to make structural alterations in order to handle a growing town government.

FIRE DEPARTMENT

Lincolnton has an adequate fire department which is staffed by a chief and three full-time truck drivers who maintain alternate round-the-clock duty. The regular firemen are assisted by a very active and highly coordinated volunteer group. Many of the volunteer firemen received fire-fighting training while in the Armed Services.

Fire-fighting equipment consists of one aerial ladder truck, one Ford-Howe 500 GPM pumper, one auxilliary American LaFrance 750 GPM pumper and one 1,000 GPM pumper, American LaFrance. Radio communication is maintained with the town law enforcement office, and all trucks are equipped with the latest devices. A modern ward-street alarm system is maintained. The Town of Lincolnton has a fire insurance rating of NB-6 by the National Board of Fire Underwriters.

WATER SUPPLY

Water supply is one of the most important facilities influencing a community's development. The availability of water is crucial to any kind of development; hence, the land development planning must be closely related to water in its four major aspects: supply, quantity, quality and distribution. There are two sources of water supply -- surface water and ground water, and two methods of distribution -- through public facilities and from individual wells.

The present source of water for Lincolnton is South Fork - Catawba River and five wells are used for the stand-by purposes. Pumping capacity of the pumps is 2,000,000 gallons per day. Filtering capacity is also 2,000,000 gallons per day.

Storage Facilities

The storage capacity of finished water (which has been treated and filtered) is 1,725,000 gallons per day. The average daily consumption is 850,000 gallons per day and average daily reserve is 900,000 gallons per day. The water supply and storage are more than adequate for the town.

There are three water storage tanks within the corporate limits. Two are located on the north side of town: one 15,000 gallon tank is located on North Laurel Street, and one 500,000 gallon tank is located on the northeast side of town off Abernethy Street. The other 125,000 gallon storage tank is located on the corner of Lee and Congress Streets and on the southwest side of Lincolnton. There are other water storage tanks within the planning area of Lincolnton, but they are privately owned by the textile mills.

Ground Water Sources

Geologically, wells in Lincoln County are in Granite, Gneiss and Schist formations. Typical yields are as follows:

Location	Depth in Feet	Diameter in Inches	Yield Gals. per Minute
Coble Dairy	90	8	30
Cochrane Furniture	302	6	100
Boger and Crawford	400	8	32
Boger and Crawford	166	6	30
Boger and Crawford	240	8	10
D. E. Rhyne Mill	82	6	100
D. E. Rhyne Mill	93	6	89

Source: Industrial Locating Data, Lincoln County, North Carolina.

Surface Water

The following facts concerning surface water flow in Lincoln County were obtained from the District Engineer of the United States Department of Interior, Geological Survey, Raleigh, North Carolina.

Name of Stream	MGD Mean Flow	Year of Data
South Fork - Catawba River	306*	1958
Clark Creek, Lincolnton	74	1958
Walker Branch	11	1958

*Above confluence with Clark Creek.

SANITARY SEWAGE DISPOSAL

Community life cannot exist without the twin services of water supply and sewage disposal. These are two functions which people usually cannot provide for themselves and which are therefore the responsibility of the community. Both of these facilities rank high in expenditures for the average town -- both for initial construction and for operation and maintenance. Water supply and sewerage should be considered as a unit, for where you have water supply under pressure, with inside plumbing, sewage is produced. The wastes of a community can create an intolerable nuisance, spread disease, and reduce property values when proper disposal units or facilities are not provided. In rural areas, cesspools or septic tanks can treat the wastes; however, when the population exceeds about two households per acre, depending on local conditions, cesspools and septic tanks are generally unsuitable and a sewer system is necessary.

Sewage is generally classified by its source. Sewage from residences, institutions, and business buildings is classified as domestic sewage; that resulting from the manufacturing or industrial processes is called industrial waste; the run-off from stree during and immediately following storms is called storm sewage or storm water.

The requirements of sewerage systems can really tax the skills of a sanitary engineer for waste must be accepted from house basements, which in turn means that sewers need to be at least seven or eight feet deep. Flow should be by gravity, which is most desirable for reasons of economy. The sewers must be laid on a grad that will permit a reasonable velocity of flow. Having a gravity flow sewerage system, the treatment plant must be located in a low area. Therefore, in addition to having the job of designing a complicated treatment plant, the engineer must often consider the provision of flood protection. Where water and sewer lines must cross, sewers should be of cast iron or other water tight construction within ten feet of water lines. Also, sanitary sewers, mains and house connections should be of sufficient size. House connections should be not less than four inches in diameter; short laterals, generally six inches; and all other lines, eight inches and larger, depending on anticipated flow.[*]

---

[*] *Planning the Neighborhood*, American Public Health Association, Committee on the Hygiene of Housing, pp. 28, 29.

No attempt is made to present here technical standards to cover technical flaws in design of the collection system or other obstacles to proper flow and failure to provide for manholes, cleanouts, etc. However, it is essential that they be checked by qualified sanitary engineers before execution of any development or redevelopment plans.

Existing Waste Treatment Plant

The waste treatment plant was built approximately thirty-five years ago and is greatly inadequate for present sewerage system requirements. The State of North Carolina has notified the Town officials that Lincolnton must improve its sewerage system. The existing plant is located on the east bank of the South Fork River and at present all wastes for the town are received at this plant. Daily capacity is 750,000 gallons and the system already exceeds its capacity. Existing facilities include commenutor, mixer, flocculation chamber, two rectangular primary clarifiers, separate sludge drying beds. All of these facilities are going to be replaced with new facilities which are to be built in the immediate future. The newly proposed three-million gallon sewage treatment plant, which will be located farther downstream, will be a gravity flow primary treatment type. The trunk lines will follow the C & NW Railway line. This system is known locally as the "River Outfall Sewer."

General Drainage Areas and Existing Outfall Sewers

The lay of the land within Lincolnton makes it necessary to divide the corporate limits into four general drainage areas for water-borne waste collection. These four drainage areas were pointed out in a recent study on Lincolnton's sewerage system by

J. N. Pease Associate, Charlotte, North Carolina. The informatio contained within this section draws on their study.

The four areas are as follows:

Boger Branch Drainage Area
Central District Drainage Area
South Fork Drainage Area
Walker Branch Drainage Area

Boger Branch Drainage Area

The Boger Branch Drainage Area encompasses the following areas: the area lying south and east of the Seaboard Airline Railroad tracks from the area of Massapoag Mill on the south to the rail crossing on South Flint Street, thence, north along the eastern edge of North Flint Street where it turns eastward along McBee Street to U. S. Highway 321 Bypass, then N. C. Highway 27 and east along N. C. Highway 27 into area not included within the Boger City Sanitary District. To the southeast this drainage area extends to the ridge line of the hills lying east of U. S. Highway 321-A.

This sanitary district, lying northward of South Laurel Street extension to about McBee Street, is served by a 12-inch diameter trunk sewer discharging into the Boger Branch outfall at a point about 500 feet northeast at East Park Drive. The sector lying immediately south of Laurel Street extension and that east of U. S. Highway 321 Bypass, but south of the Seaboard Airline Railroad tracks, is served by a recently constructed 12-inch diameter trunk sewer discharging into Boger Branch outfall at a point about 500 feet northeast of East Park Drive.

Central District Drainage Area

This area consists of the corporate limits bounded mainly on the southeast by the Seaboard Airline Railroad tracks, on the south by Fork River and on the west by Monroe Street (along West Congress Street) to South Grove Street. The northern boundary is Main Street except the area between North Cedar Street and North Flint Street where East Pine Street is the approximate north border.

This particular area is fully served at present except for some very minor undeveloped areas. This outfall attains a diameter of 15 inches prior to its junction with the South Fork outfall sewer immediately upstream of the existing treatment plant.

South Fork Drainage Area

This area includes all that portion of the corporate limits east of the South Fork River from the Madison Street Bridge on the south to Walker Branch on the north and which is generally bounded by Main Street on the southeast and by State Street and Hoke Street on the northeast.

This area is fully served except for minor low areas in the Clark Creek-Walker Branch section. This major sewer is 18 inches in diameter.

Walker Branch Drainage Area

This particular drainage area is to the north and beyond the present corporate limits bounded by U. S. Highway 321-A on the northwesterly side. The eastern boundary extends about 2½ miles to the Buffalo Shoals Road. N. C. Highway 27 generally delineates the southeasterly limits of the basin with Boger Branch Drainage Area and the South Fork Drainage Area forming its boundaries on the south and southwest.

This drainage area is fully served except for some low areas to the northeast. This outfall attains a diameter of 12 inches prior to connecting with the Leslie Fay 10-inch line.

Map 5 shows the four major drainage areas and their existing outfalls in the Lincolnton Planning Area.

Storm Drainage

Collection and disposal of surface water run-off are very important municipal services since they are major means of protection against flood damage. Storm sewers are determined by the lay of the land or topography of the town. Storm sewers are required to be very large to carry off the water from rain storms which occur frequently. Storm water flows by gravity to the intercepting sewers and then to outlets. Storm water usually requires no treatment and thereby can be discharged by means of outfall sewers into natural water courses.

The amount of storm water to be taken into consideration when designing a system depends on many variables. Some of them are as follows: area and shape of the water shed; rainfall intensity; ground slope; and character of ground cover.* In some cases it is more practical and economical to consider the damage and inconvenience that result from storms than attempting to provide for the most severe storm. The problem of design is complicated greatly each year as each area of the city becomes more built up. This, in turn, increases the run-off from future rains.

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*International City Manager's Association, Local Planning Administration, Ann Arbor, Michigan, Cushing Malloy, Inc., 1959.

Very few of Lincolnton's areas are directly served by storm sewers. The majority of Lincolnton relies on natural drainageways for collection of storm water. The Town should undertake an extensive storm sewer program to take care of existing development. Future subdivision regulations will assure the town that new subdivisions will be provided with storm sewers along with curbs, gutters, and sidewalks, etc.

Open ditches and channels may be necessary in areas subject to excessive rainfall or flash floods, and are acceptable if designed as specified below to eliminate the hazards characteristic of open water courses:

1. They should be laid on slopes that will permit free flow at all times.
2. The capacity of culverts should not be less than that of the ditch upstream, and any other bottlenecks should be avoided.
3. There should be no pockets to collect standing water, and ditches should be kept clean by maintenance.
4. Open ditches should not be located in the path of circulation where they may cause falls. If hazardous, they should be fenced off or otherwise physically separated from walks, streets, or public recreation areas.
5. Ditch bottoms should be lined preferably with concrete or other permanent facing, and the sides should be sodded to prevent erosion.*

It must be remembered that the drainage system is an engineering problem, and care should be taken by developers to obtain competent engineering help in the layout of ditches or surface drains.

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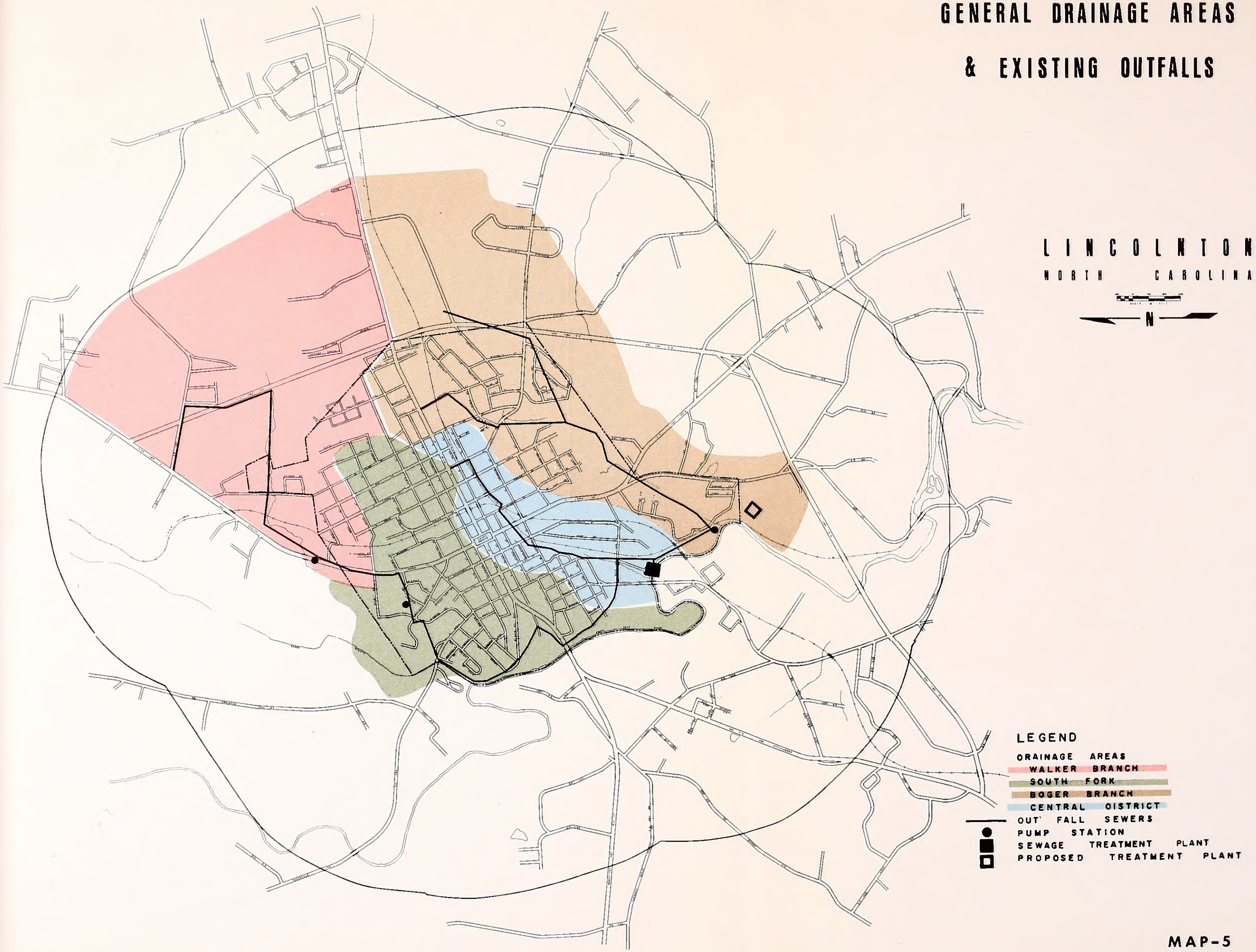
* Planning the Neighborhood, American Public Health Association, Committee on the Hygiene of Housing, p. 22.

GENERAL DRAINAGE AREAS
& EXISTING OUTFALLS



MAP-5

POPULATION

The population of the incorporated area of Lincolnton in 1960 was 5,699.* This represented approximately 70 per cent of Lincolnton Township's population and 30 per cent of Lincoln County's population. Lincolnton is the largest community in the County.

POPULATION PROJECTIONS

Lincolnton Township has shown a greater increase in population from 1950 to 1960 than its contemporaries in the same county. For example, Catawba Springs, Howards Creek and North Brook experienced a decrease in population, whereas Ironton Township and Lincolnton had increases of 38.5 per cent and 6.6 per cent respectively. The overall picture is not as bright as one might expect, population-wise, for Lincolnton is really increasing in population at a decreasing rate. A more comprehensive analysis of this information can be found in the Population and Economy Report prepared for the Town of Lincolnton by the Department of Conservation and Development, Division of Community Planning. Because of the importance of population projections for Lincolnton, Lincolnton Township and Lincoln County, extracts have been taken from this report to show the future population projections for these areas. It must be remembered that these projections are based on past trends so if the trend remains constant these projections should be fairly accurate.

1970-1980 Population Projections for Lincolnton,
Lincolnton Township and Lincoln County

	1950**	1960**	1970	1980
Lincolnton	5,423	5,699	5,900	6,100
Lincolnton Township	13,480	14,363	15,200	16,100
Lincoln County	27,459	28,814	30,100	31,500

**U. S. Bureau of Census

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[*] Population and Economy Report, Town of Lincolnton, North Carolina, Compiled by the Division of Community Planning, Department of Conservation and Development.

No doubt, there are many variables that can change these conservative projections, the vitality of the local economy, the local tax structure and tax rate, large annexations, and the availability of residential dwellings, can all constribute to whether or not an individual or a family moves into the community.

SOCIAL CHARACTERISTICS

Income

Income, education and housing are three facets which are closely associated. For example, where educational levels are high it is more than likely that income and housing levels will also be fairly high. On the other hand, if educational levels are low, it is likely that income and housing will also be low. The income level for Lincoln County per family was taken from the U. S. Census for 1949 and 1959. The Population and Economy Report gives a detailed analysis of the median family income, mean family income and per capita income for all families within Lincoln County. Data for 1949 was unavailable for Lincolnton and, therefore, a comparison could not be made. However, a general summary will be drawn here in order to give the citizens of Lincolnton a general idea of how they compare in income with other urban areas in the United States.

In 1959, median family income for Lincolnton was $4,253. Thi was approximately $1,900 below that of Urban United States and approximately $600 below that of Urban North Carolina. The Population and Economy Report also shows that the non-white median famil income for Lincolnton was less than one-half that of the total (white and non-white combined) median family income. To a large degree, non-white median family income has pulled down the overall level of attainment in this category. No doubt, this will always be the case until the non-white citizens in Lincolnton reach highe standards of employment and living conditions comparable to those of the white citizens of Lincolnton. However, in Lincoln County non-white median family income is higher than in the Town of Lincolnton, even though income levels are lower in all categories.

This tends to indicate that the non-whites fare better in the County than in the Town of Lincolnton.

It is also interesting to note that in 1959 approximately 51 per cent of the families in Lincolnton subsisted in incomes ranging from $3,000 to $8,000 per year and earned approximately 51 per cent of the town's personal income, whereas 34.6 per cent of the families subsisted on incomes of less than $3,000 per year and only earned 11.3 per cent of the total personal income. In essence, this is the group of citizens of Lincolnton who are holding the town back, along with other civic flaws. This is the income group which Lincolnton should attempt to raise economically by providing more opportunities of employment with higher wages. There are also 14.5 per cent of the families in Lincolnton which earned in excess of $8,000 and they received fully 38.0 per cent of the total personal income. The families within this range are the financial and civic leaders of the community. This being so, they should take the initiative in implementing the proposals and recommendations which will be set forth in this report.

Education

As was pointed out earlier, the educational attainment of a town, along with other factors, is reflected in the town's standard of living. This is why it is so important for a town to educate its younger citizens. They will be the community leaders in the future and the Town of Lincolnton will depend on them for sound leadership.

As it stands now, Lincolnton's adult population (citizens of 25 years or older) are not as well educated as those in Urban North Carolina or those in Urban United States. For example, the median school years completed in Lincolnton is 9.7 years, as compared with 11.2 years completed in Urban United States and 10.4 years completed in Urban North Carolina. It can be seen from these figures that Lincolnton can be greatly improved in the educational field.

The Population and Economy Report shows that only 46 per cent of Lincolnton's adult population has had eight years of schooling or less, whereas approximately 36 per cent have completed high school and only 6.9 per cent have completed college. As for the non-white citizens of Lincolnton, only 9.7 per cent have completed high school and only 2.1 per cent have completed college; 83.6 per cent have had only eight years of school or less. However, the educational attainments of Lincolnton are higher than Lincoln County, but only by 1.4 per cent.

Here again, enough cannot be said about how important education is to a town. Only Lincolnton can solve this problem as the years go by. If the town is sincerely interested in improving its standing in Urban North Carolina, then the adult citizens must stress education for the younger citizens. Technological advances in our society have made better education a "must". No longer can a town rest on its past laurels -- future industries demand highly-trained and competent personnel.

Housing

It must be brought out here that the approach the U. S. Census takers use for grading or rating housing conditions is quite different from that which was used in the land use analysis. The Census Bureau bases percentages on plumbing facilities and living space for the family itself, whereas the land use analysis, taken by a windshield survey, evaluated the outside structural conditio maintenance and environment. There will be a big difference in percentages, but the census figures are likely to be more accurat because the census takers go directly into the dwelling unit itself and examine the interior of the dwelling.

The Census shows that Lincolnton is a bit poorer in housing compared to Urban United States and Urban North Carolina than is shown by the land use analysis. For example, the U. S. Census shows Lincolnton with 63.2 per cent of its housing in the standard classification; Lincoln County, 51.6 per cent standard; and Lincolnton Township, 56.9 per cent standard. These percentages are far below Urban United States with 81.4 per cent standard, and Urban North Carolina with 79.9 per cent standard. By comparison, the land use analysis shows Lincolnton with 90.49 per cent standard, which is an extremely conservative estimate.

The U. S. Census also breaks down the percentage for non-white dwelling units; this is very helpful in sizing up the housing situation in general. Non-white dwelling units usually pull down the overall percentages for a town. The non-whites in Lincolnton only have 14.1 per cent of their dwelling units in the standard classification versus 13.3 per cent for Lincolnton Township and 7.5 per cent for the County as a whole. Unfortunately, it can be seen that the non-whites are not as well housed as is the majority of the town. Here again, it is up to the individual citizen of Lincolnton to encourage personal pride and motivation in some of the pockets of poor housing, and in some cases, just general repairs and a little painting and cleaning up could do wonders.

ECONOMY

The economy, along with population, are two factors which are closely tied together. Each one affects the other by its growth. In other words, a town must have a good, sound economy in order to support a large population. Because of this close relationship between the population and the economy, a brief discussion of Lincolnton's economy will be presented.

MANUFACTURING

Textiles and furniture account for the majority of total manufacturing employment in both Lincolnton and Lincolnton Township; for example, 85 per cent for Lincolnton and 89 per cent for Lincolnton Township. Employment in Lincolnton in both of these industries decreased over what it had been in 1950. However, on the National scene during this same period of time, there was a decrease in these industries due mainly to automation -- 10.8 per cent in lumber, wood and furniture, and 22.3 per cent in textiles. Due to this automation it is most likely that Lincolnton will soon follow this trend. To a greater degree, therefore, a sincere effort should be made to attract other types of industries which are not related to the textile fields. Any town which is almost solely dependent upon two industries for its livelihood does not have a very stable economic base.

The Chamber of Commerce of Lincolnton should, in its drives for attracting new industries, think in terms of diversification for their town. In this way they would be making their town more self-sufficient and would be giving the town a broader economic base, should something happen to the textile field.

RETAIL TRADES

In many respects the trend in retail business reflects the overall soundness of the local economy, as well as the "get up and go" of the local merchants. In other words, the retail sales are not likely to increase greatly no matter how many employment opportunities become available if the local merchants do not strive to "sell themselves" and add the necessary inducement to make people want to shop in their local stores.

From 1954 to 1958 Lincolnton showed a decrease in all aspects of retail trade -- annual payrolls, sales, number of employees and the number of establishments. In this same period, the Remainder of Lincoln County (less Lincolnton) increased in all four aspects. Also, total Lincolnton retail sales, as a per cent of total County sales, decreased from 82.7 per cent in 1954 to 57.9 per cent in 1958. However, the latest business census data figures show a reverse trend from 1958 to 1963. Lincoln County experienced a large increase in retail activity -- sales are up almost 50 per cent. In Lincolnton, all aspects of retail activity have had large growth, particularly sales which have almost doubled, whereas the Remainder of the County (less Lincolnton) has experienced a decline in all categories.

Sales within Lincolnton have been increasing steadily in all categories. Overall, sales for Lincolnton have increased from approximately 60 per cent in 1958 to approximately 75 per cent in 1963. From these statistics and percentages it can be seen that Lincolnton merchants have been "selling themselves" and have made the Town of Lincolnton a center of retail trading for the whole County.

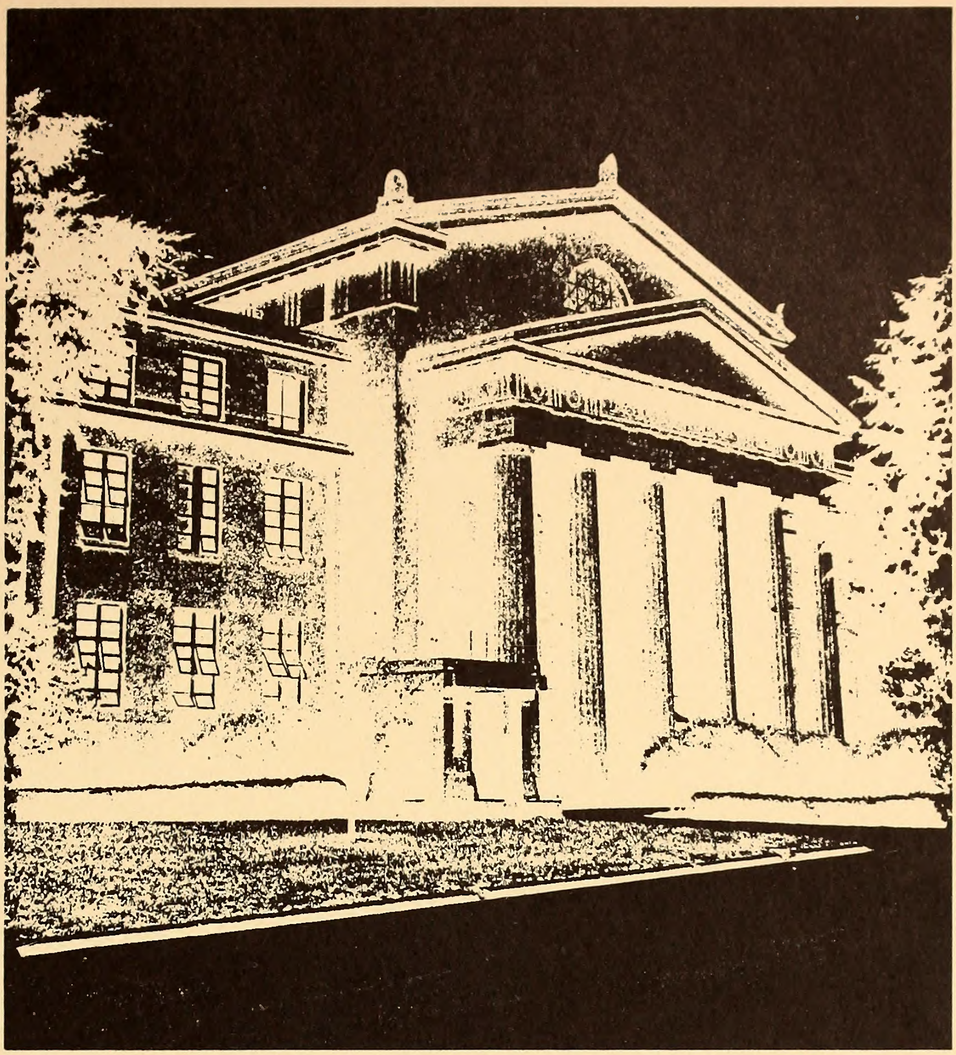
SERVICE AND WHOLESALE TRADE

Data on service and wholesale trades are unavailable for 1963, but are available for 1958. However, since the retail trade data reversed its trends completely for 1963, it is more than likely the same for service and wholesale trade activities. A spot survey within Lincolnton suggests that the trend has reversed itself. However, data for 1958 shows service activities in the Remainder of the County (less Lincolnton) was growing much more rapidly than in the Town of Lincolnton.

In 1958 wholesaling activity was heavily concentrated in Lincolnton and more than likely it has probably increased greatly since the retailing has grown to such a great degree.

AGRICULTURAL TRENDS - LINCOLN COUNTY

In Lincoln County the number of farm units and farm operators are decreasing; however, the remaining units are larger, more efficient, more mechanized, and more productive. This trend is not only true for Lincoln County, but is also a general trend which is taking place throughout the United States. The biggest problem this trend is causing is out-migration of these displaced farm workers; therefore, the most important problem now facing the County is finding jobs for these displaced farm workers. Failure to do so will be Lincoln County's loss in the long run.



LINCOLNTON, NORTH CAROLINA

EXISTING LAND USE PATTERNS AND PROBLEMS

CHAPTER III

EXISTING LAND USE PATTERNS AND PROBLEMS

LAND USE PROBLEMS

A large portion of Lincolnton's land use problems can be traced back to the early years of the town's history. Some of these problems have continued to the present because of the lack of a comprehensive plan for the town, along with inadequate tools to enforce good, sound planning. Some examples of major land use problems which affect most towns, if not all, are as follows:

--lack of adequate parking within the CBD
--poorly designed streets in certain areas of the city, such as jogs and dead ends
--railroads crossing at grade level
--strip commercial development paralleling major roads and thoroughfares
--lack of adequate stop signs and signal lights, etc.
--heavy traffic within certain sections of the city
--substandard housing to a point which warrants clearance
--industries which have a deteriorating effect on the surrounding areas
--lack of adequate recreational facilities
--rental property with more than one family to a single-family dwelling
--traffic generators located next to residential property
--lack of public facilities
--lack of a zoning ordinance and subdivision regulations
--may be a need for an annexation study

Some examples of land use problems can be found in Study Areas 1, 4, and 5 where a large amount of houses are in the substandard classification. Major and minor repair types of housing, along with the influence of mixed land uses, have had a deteriorating effect within these areas. Study Area 1 is composed mostly of the CBD and the retail section has encroached upon the residential section. Heavy traffic and bad housing have added to the down-grading of Study Area 5 -- along with some strip commercial.

Study Area 4 has some substandard houses within its boundaries because of the existing street system and rental property within this area. The C & NW Railroad adds to this blighted area on the west. This is particularly true along Academy Street.

In the fringe area of Lincolnton, Study Areas 9 and 10 have the majority of the land use problems. Mixed land uses, poor housing, heavy traffic, and strip commercial with the encroachment of industrial uses have aided in the low classification of these two study areas. The influence of these conditions on one another, and the blighting influence that existing structures have on each other have tended to worsen an already poor situation.

Tables 2 through 8 have been inserted at the end of this chapter. They contain detailed analysis of the use of land in the planning area and are more meaningful grouped together.

LAND USE ANALYSIS

The Lincolnton planning area, which includes the corporate limits area and the fringe area, takes in approximately 12 square miles of land. Within the corporate limits area there are approximately 2.2 square miles. In this analysis a discussion of development patterns and problems will be presented relating to each of the seven major land use categories found in each of the ten study areas. These seven land use categories are as follows:

- Transportation
  - Streets
  - Railroads
  - Other
- Production
  - Manufacturing
  - Manufacturing Services
- Business
  - Retail Trade
  - Wholesale Trade
- Services
  - Consumer
  - Professional
  - Business
- Residence
  - Single-Family
  - Multi-Family
  - Trailers
- Social and Cultural
  - Public
  - Quasi-Public
- Open Land
  - Vacant and Farm

The land use data contained in this section was obtained in an extensive field survey of the entire planning area and plotted on a map. The uses were then grouped into categories according to their major function. Banks, general office buildings, and such things as barber shops were classified as services; the retail trade classification included all types of retail products, foods, auto parts, hardware, paper, drugs, liquor, dry goods, flowers, appliances, etc. (Map 6 shows existing land use for Lincolnton.)

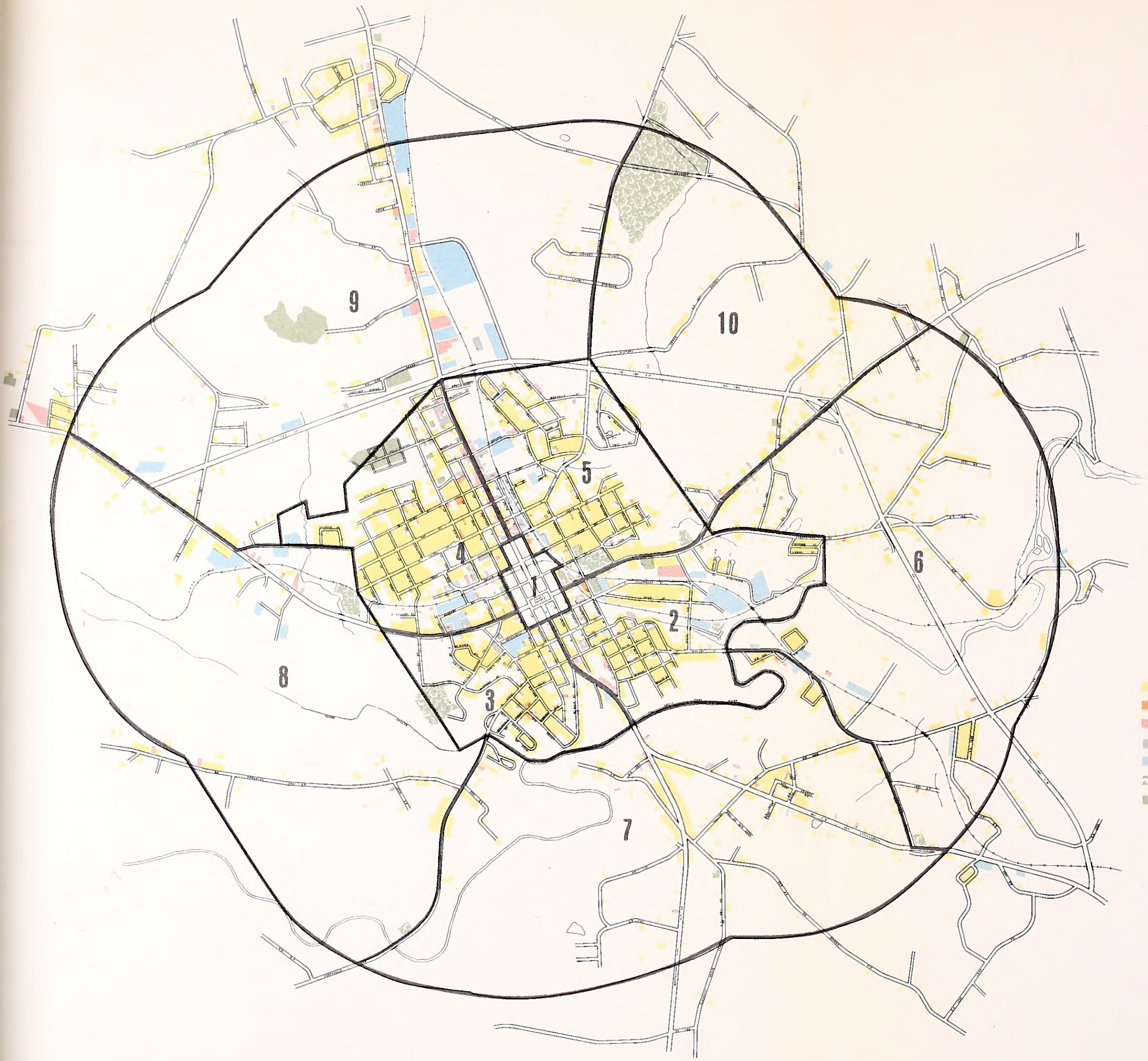
Table 2 , Lincolnton Land Use Acreages, gives a detailed breakdown of the developed acreage which is devoted to the various land uses in each of the ten study areas. Table 3 , Lincolnton Land Use Percentages, gives a summary of the percentages in each of the ten study areas. These two tables should help to give a broader perspective of the town.

GENERALIZED

EXISTING LAND USE

LINCOLNTON

NORTH CAROLINA



MAP-6

TRANSPORTATION

The transportation land use in Lincolnton consists of street rights-of-way, alleys, railroads, and other related uses such as terminals, non-vehicular routes (containers which primarily collect and distribute the products of communication and utilities, and in some cases, freight and passengers), and sub-stations for the control and movement of contents which are included as auxiliary uses. Within the corporate limits area, a little more than a quarter of the developed land is being used for transportation purposes with streets and railroads accounting for the majority of the acreage.

The Town of Lincolnton is laid out around a central square with streets radiating from this square in a typical gridiron pattern. This type of street layout has caused many problems of congestion for the town and its citizens. The central square with the Courthouse in the center is a grand idea and can be made into something beautiful with thoughtful planning and action by the citizens. As East Main Street now stands, it is a bottleneck with cars parked perpendicularly on each side of the street for the first one and one-half blocks. This bottleneck situation is very noticeable around noon each day and on heavy shopping days. Traffic has been known to back up past the railroad tracks and sometimes even past Poplar Street. There definitely needs to be a solution to this problem and proposals will be given in the Land Development Plan at a later stage of this report. Charts 1 and 2 illustrate land use acres and percentages of total developed acreage in bar form.

Study Area 1, which is essentially the Central Business District (CBD) has approximately 12.32 acres of land which is taken up in streets, 3.54 acres in railroad tracks and 5.25 acres in other uses such as parking and non-vehicular uses.

In some other areas of Lincolnton, noticeably in the newer sections of town, the streets have been laid out in an adequate manner. This being so, these areas have resulted in relatively

COMPARISON OF LAND USES WITHIN THE CORPORATE LIMITS BY ACREAGE AND PERCENTAGE OF TOTAL DEVELOPED ACREAGE

LINCOLNTON, NORTH CAROLINA

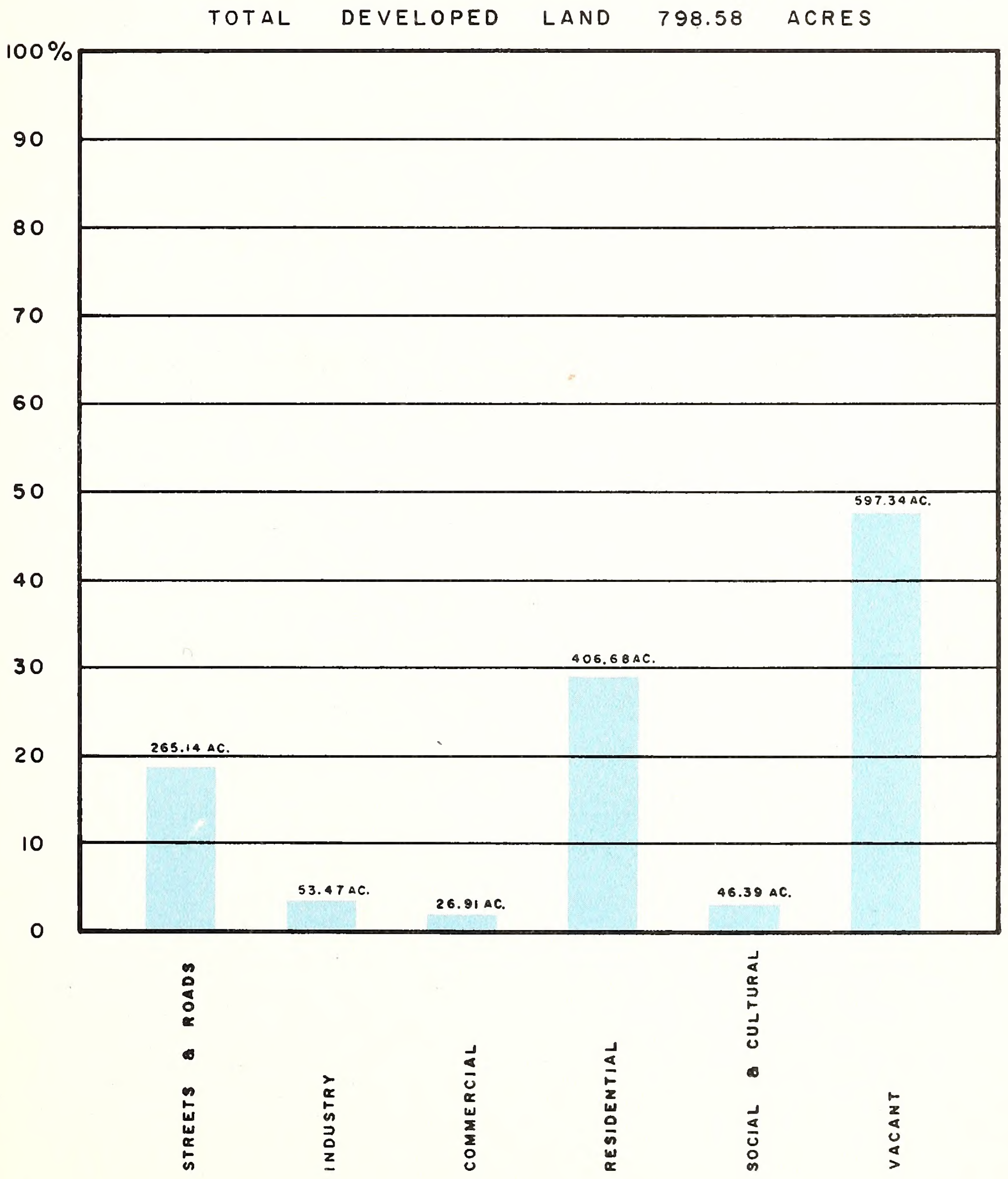


CHART I

COMPARISON OF LAND USES
WITHIN THE FRINGE AREAS
BY ACREAGE AND PERCENTAGE
OF TOTAL DEVELOPED ACREAGE

LINCOLNTON, NORTH CAROLINA

TOTAL DEVELOPED LAND 943.47 ACRES

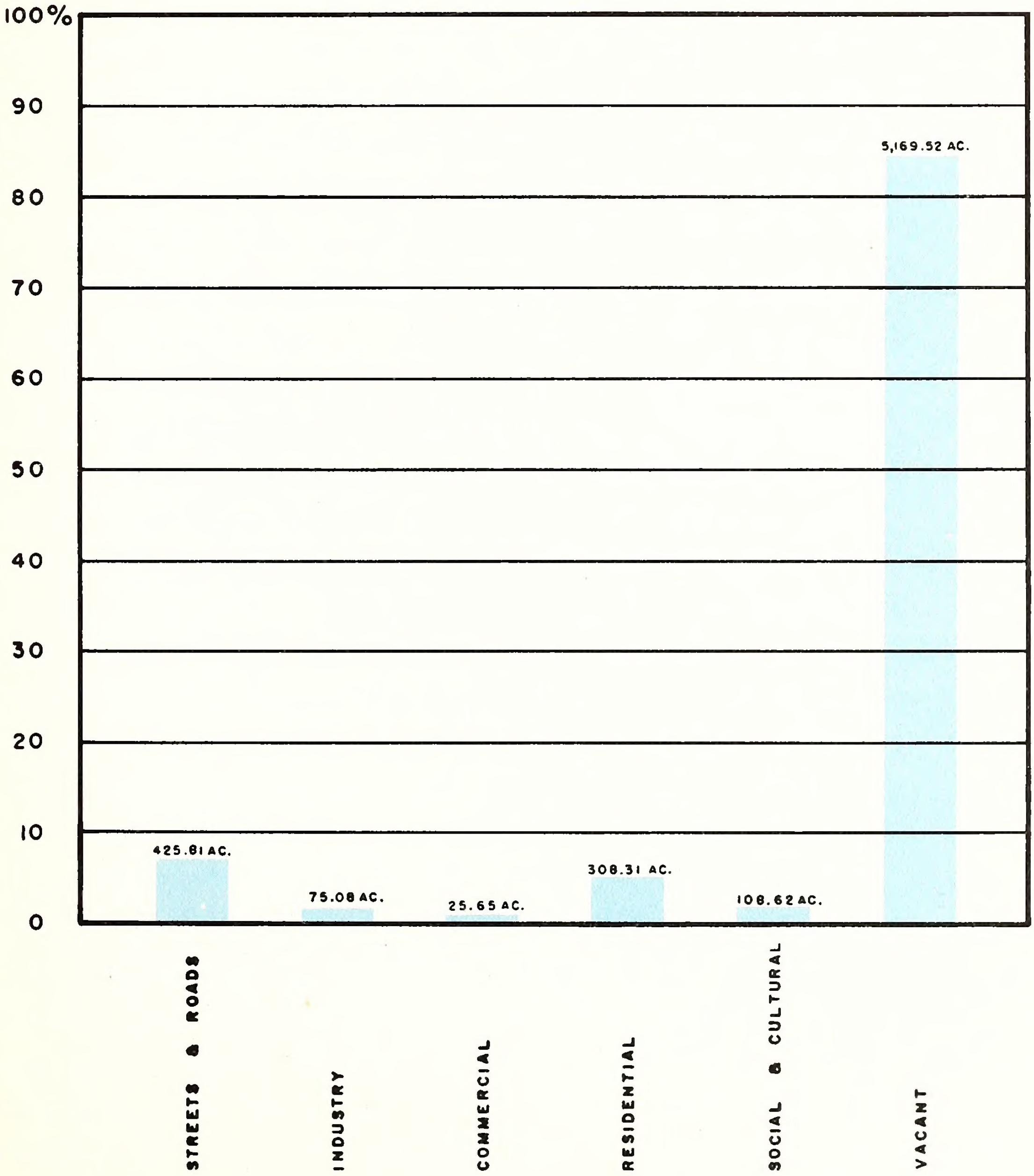


CHART 2

low street acreages. Such areas are found in Study Areas 3 and 4 located on the northeast side of Main Street. The streets within the Study Area 3 follow the lay of the land and the topography, whereas the streets in Study Area 4 are laid out on a typical gridiron pattern. Both study areas are getting about the maximum use of the land for residential purposes; this cuts down on the high percentage of land being used in streets. It also saves citizens of Lincolnton money in the long run by having fewer streets to maintain. Comparing these study areas with Areas 2 and 5, it is easily seen that Study Areas 3 and 4 have a combined total of 101.05 acres of land being used for transportation purposes, whereas Study Areas 2 and 5 have a total of 142.98 acres. Therefore, the southeast side of Lincolnton is not laid out as well as the northeast. This southeast side most likely costs the town more in keeping up the present streets.

There are approximately 265.14 acres being used for transportational purposes in the corporate limits area of Lincolnton, with railroads comprising about 49 acres of this total and other uses comprising about 16 acres. This acreage equals approximately 33 per cent of all acreage in town and 19 per cent of the total acreage developed within the corporate limits area. The other five study areas which comprise the fringe area are so scattered in area that only a brief summary will be given here. Study Areas 6 and 9 have more land in transportation than Areas 7, 8 and 10. Study Area 9 has a greater amount of acreage in streets than the other four because of the long section of U. S. Highway 321 which has a right-of-way of approximately 100 feet through Study Area 9. Study Area 6 has a greater number of acres in railroads than the other four areas. Study Areas 6 and 7 have the highest percentage of acreage within the one mile fringe area -- approximately 426 acres used for transportation with railroads comprising 63 acres of this total and two acres in other uses such as parking and non-vehicular uses. The fringe area comprises approximately 45 per cent of all acreage in the fringe area and approximately 7 per cent of the total acreage developed within the fringe area. The entire planning area of Lincolnton has approximately 691 acres which are being used for transportation and related purposes. There are 28.41 miles of street within Lincolnton's town limits, of which 24.62 miles are paved, 2.34 miles are gravelled and 1.45 miles are unsurfaced. Streets which are maintained by the State of North Carolina are as follows:

> North Flint Street and South Laurel Street, East and West Main Street, North and South Aspen Street, and North Grove and South Grove Streets (all the way across town to 321 Bypass). All the rest of the streets within Lincolnton are maintained by the town.

Map 7 shows roads which are paved and unpaved for the entire planning area.

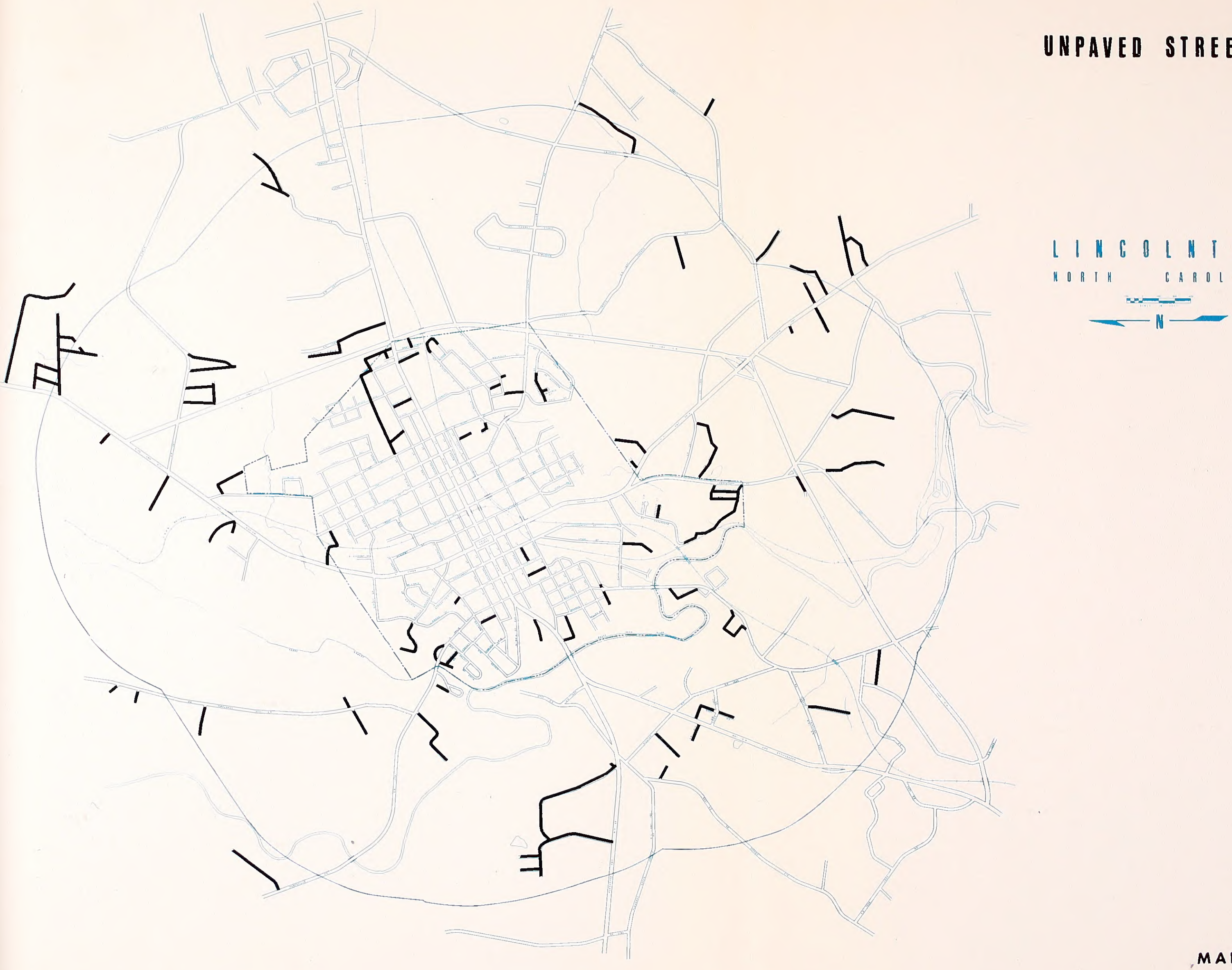
PRODUCTION

The industrial pattern in Lincolnton follows along a narrow belt by the Seaboard Air Line Railroad which passes through the town. There is another belt of industrial acreage out along U. S. Highway 321-A on the northeast side of town. The heaviest concentration is in Study Area 2 within the corporate limits area and Study Area 9 out in the fringe area. Manufacturing service comprises the majority of the industrial acres within the corporate limits area. (Manufacturing services are establishments of a manufacturing nature or character which supply the general needs of a semi-tangible nature to the public.)

Study Area 4 has the highest concentration of heavy manufacturing within the corporate limits because of the large Burris Furniture Manufacturing Company which is located off North Aspen Street and between Academy Street. Presently, about 51 acres are in industrial use within the corporate limits, comprising approximately 6 per cent of all acreage within the town and about 4 per cent of total acreage developed within the town.

In the one mile fringe area around the corporate limits there are 75 acres being used for industrial purposes. These

UNPAVED STREETS



MAP-7

are 24 acres more than in the corporate limits. In most cases industrial uses tend to locate outside the corporate limits in order to avoid taxes and because they need large areas of land for future expansion. It is interesting to note that there is no heavy manufacturing in any of the fringe areas except in Study Area 8. This industry, which makes hardware, is located off Maiden Road and comprises about 1.32 acres for the entire fringe area. These 75 acres of industrial acreage comprise about 8 per cent of all acreage within the fringe area, and one per cent of total acreage developed within the fringe area. With 51 acres of industrial acreage in the corporate limits and 75 acres of industrial acreage in the fringe, the Lincolnton Planning Area has a grand total of approximately 126 industrial acres. This represents 15 per cent of all land within the entire planning area and approximately 5 per cent of all developed acreage in the planning area.

BUSINESS

For purposes of clarification, it must be noted that the acreages and percentages compiled for the CBD indicate the predominant use which occurs on the first floor. The second floor consist mostly of insurance offices, lawyers' offices, storage space, and vacant floors.

Some 17 acres of Lincolnton's corporate limits area are taken up by retail trade and wholesale business uses. Of this total, wholesale trade makes up approximately 4 acres. Together, the retail and wholesale constitute about 2 per cent of all the town's acreage, about one per cent of all developed acreage in the town. The heaviest concentration of retail trade and wholesale trade can be found in Study Areas 1, 2, and 3. These three study areas in themselves account for over two-thirds of the total retail and wholesale space within the corporate limits. The highest concentration of retail trade is found in Study Area 2. The reason retail trade has more acres in this study area than Study Area 1 is because of the vast amount of land in this study area whereas Study Area 1 is condensed into a small area with small uses. Study Area 1 contains more individual acres in wholesale trade than any of the other four study areas.

Throughout the corporate limits there are retail uses scattered throughout the town's residential communities. These areas are places where the citizen can go to buy certain convenience goods such as medicines, groceries, etc. There is a great amount of retail and wholesale uses along the two major roads -- Main Street and Aspen Street--which intersect the town, and an especially great amount along East Main Street leading away from the town. The majority of the retail businesses which are scattered throughout the town and along Main Street have been well-maintained and are an asset to the surrounding residential areas. In other instances, such businesses can be an eyesore and a liability to the surrounding area. For example, the approach into Lincolnton (from Boger City on 150) gives one a poor impression of the area because of the very heavy strip development of retail business along this road. Much could be done to create a good impression of this area which leads into the town.

Within the fringe areas there are approximately 20 acres being used for retail and wholesale uses. This comprises approximately two per cent of all acreages in the fringe area and .34 per cent of total acreages developed. Study Area 9 has the greatest amount of acreage in retail trade (9.25) and wholesale trade (1.95), because of the heavy development of strip retail and wholesale businesses along both sides of Charlotte Highway.

Map 8 gives a more detailed breakdown of the CBD land uses than the generalized land use map.

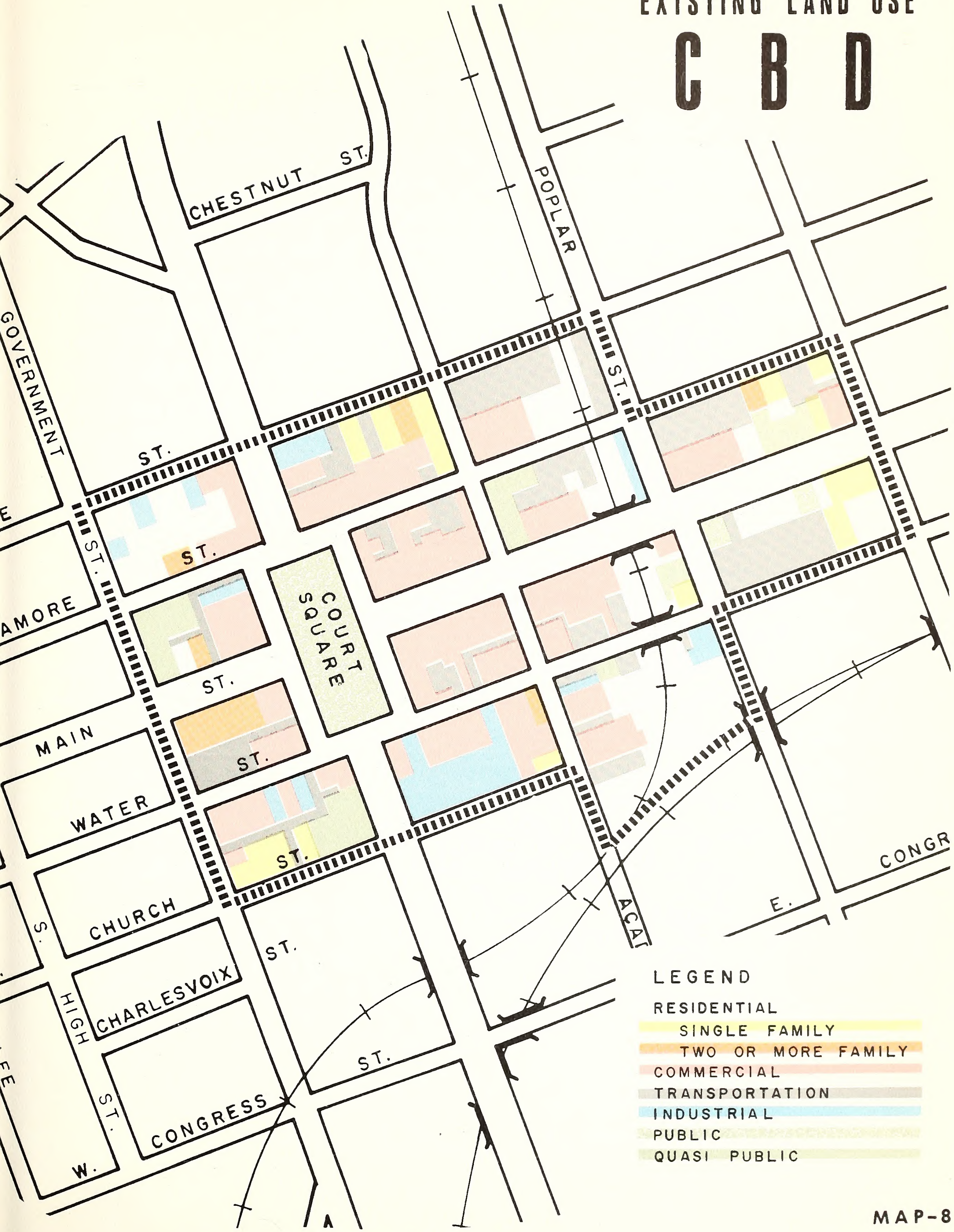
SERVICES

Services are very similar in many ways to business -- retail uses, except they supply needs of an intangible nature to their individual clientele. Most of the service uses in Lincolnton are located within the CBD or in close proximity to it. However, the larger land users such as motels, restaurants and National Guard

GENERALIZED

EXISTING LAND USE

C B D



MAP-8

Armory are usually located in the fringe area where the sizeable tracts they need are available at lesser costs.

Services within the corporate limits account for approximately ten acres and comprise approximately one per cent of all the acreage in town and 69 per cent of the total acreage developed within the corporate limits. These service-type establishments and offices include grooming and cleaning shops, amusement places, restaurants and motels; professional services include lawyers', accountants', and governmental offices, but exclude medical offices. Study Area 1, the CBD, has the greatest number of acres in service uses. (See Table 2). This is logical because professional people want to locate in the heart of town where they can transact business in close proximity to each other. Study Area 4 has a greater amount of acres in business uses than the other four study areas because of the service establishments along East Main Street. Many of these are repair services.

The five acres of land being used for services in the fringe area comprise less than one per cent of the total acreage developed within the fringe area. Study Area 9 again leads in service uses just as it did in business uses -- because of the strip commercial uses along Charlotte Highway (also known as N. C. 27 and 150).

One problem which was very noticeable while doing the field survey was the number of upper floors which were vacant in the Central Business District. For the merchants to get the maximum use out of the CBD they should make better use of the second stories of the buildings -- if only for storage.

RESIDENCE

The entire planning area has approximately 715 acres of land being used for residential purposes. This residential use includes single-family and multi-family units and trailers. Single-family units are by far the predominant type of housing within the corporate limits. Approximately 407 acres being used for residential purposes represent almost 51 per cent of all acreage in town and about 29 per cent of the total acreage developed within the corporate limits. Approximately 308 acres of land in the fringe area are being used for residential purposes. Of this total, almost three acres are being used for multi-family dwellings and about six acres are being used for trailers.

Table 4, Dwelling Units Quality, shows the percentage of standard and substandard dwellings in each of the ten study areas. For clarification, the two better classes (and two worst classes) of housing were combined in order to arrive at these percentages. The in-town areas with the highest percentages of substandard dwelling units are Study Areas 1, 5, and 4, with roughly 23 per cent, 14 per cent and 11 per cent, respectively. Dwellings in Study Area 1, CBD, are obviously affected by expansion of the business uses. The majority of the substandard dwellings in Study Area 5 are found along the right hand side of East Main Street and along South Flint Street. There are scattered pockets of poor housing in Study Area 4, especially along the left side of East Main Street and McBee Street, where highway business has blighted the housing in its vicinity. Another pocket of poor housing is next to the C & NW Railway on the west, North Laurel Street to the east, Hoke Street to the north, and Dixon Street on the south, and at the corner of North Flint and Sumner Streets.

These five study areas within the corporate limits have a total of 1,719 dwelling units. Of this total, 1,536 are standard in classification and 183 are substandard. These numbers give Lincolnton a percentage of 89.35 per cent standard dwelling units and 10.65 per cent substandard.

Beyond the corporate limits, in Study Areas 10 and 9, the percentages of substandard housing are 12.30 per cent and 10.92 per cent, respectively. The majority of the substandard units are in Study Area 9 along both sides of Charlotte Highway. Strip commercial development has taken its toll within these two areas. The fringe area has a total of 1,058 dwelling units -- 977 standard and 81 substandard. This gives the fringe area a percentage of 92.34 for standard and 7.66 per cent for substandard. These percentages of standard housing for the town's environs are quite outstanding when compared to other urban areas in North Carolina and the United States. The following table compares the town to State and National figures; however, it must be remembered that the percentages used by the U. S. Census Bureau are based on plumbing facilities, whereas, the percentages for this report were based on the outside appearance of the dwelling unit only. Nevertheless, the citizens of Lincolnton should feel proud of their town and should strive to keep it above average.

	Per Cent Standard Dwelling Units	Per Cent Substandard Dwelling Units
Lincolnton	89.4	10.6
Urban North Carolina	71.2*	28.8*
Urban United States	81.4*	18.6*

*Source: U. S. Bureau of Census, 1960

Table 5 and Chart 3 show the number of structures by classification for white and non-white for the ten study areas. The four criteria used in grading dwelling units are --

- -- Conserve: the evaluation given to above average housing in good condition which needs only to maintain its present status.
- -- Minor Repair: average housing which needs only minor repair to make it a community asset.
- -- Major Repair: housing which needs rehabilitation in order to prevent its decline into a state of advanced deterioration and blight.
- -- Dilapidated: housing which has advanced beyond the point where rehabilitation is economically feasible.

NUMBER OF DWELLINGS
BY CLASSIFICATION

LINCOLNTON, NORTH CAROLINA

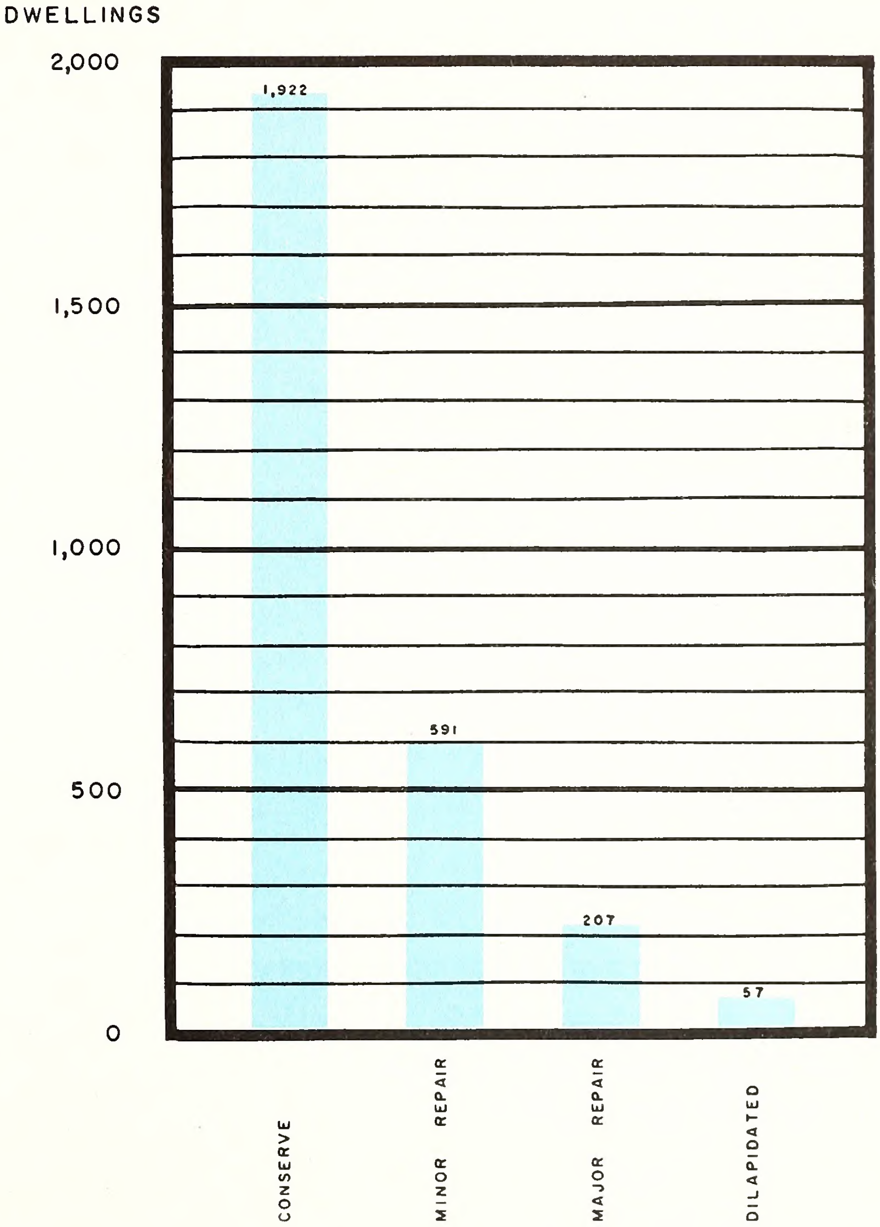


CHART 3

This table shows the actual number of dwelling units in each study area for both white and non-white. Study Areas 1, 7 and 8 do not have any non-white dwelling units. It is also interesting to note that white residences dominate the totals within the corporate limits and in the fringe area for each of the four structural classifications (1,515 white and 204 non-white units).

In-town Study Areas 5 and 6 have the greatest number of dilapidated structures. There are 35 dilapidated structures in town and 22 in the fringe area, most of which are occupied by whites. Map 9 shows areas of substandard housing.

Study Areas 2, 4 and 5 have the greatest number of dwelling units which need major repairs to bring them up to par. Study Area 4 contains a good proportion of the non-white population of Lincolnton. It is located along East Main Street toward U. S. Highway 321 and has a total of 53 major repair structures.

Study Areas 7 and 9 in the fringe area have the highest number of major repair structures, the former area having

19. Comparing totals for the fringe area shows that the white dwellings out-number the non-whites for total major repair structures -- 34 to 25. These two combined give Lincolnton a total of 59 structures which are in need of major repair in the fringe area. For the entire planning area there is a total of 207 major repair structures for white and non-white combined.

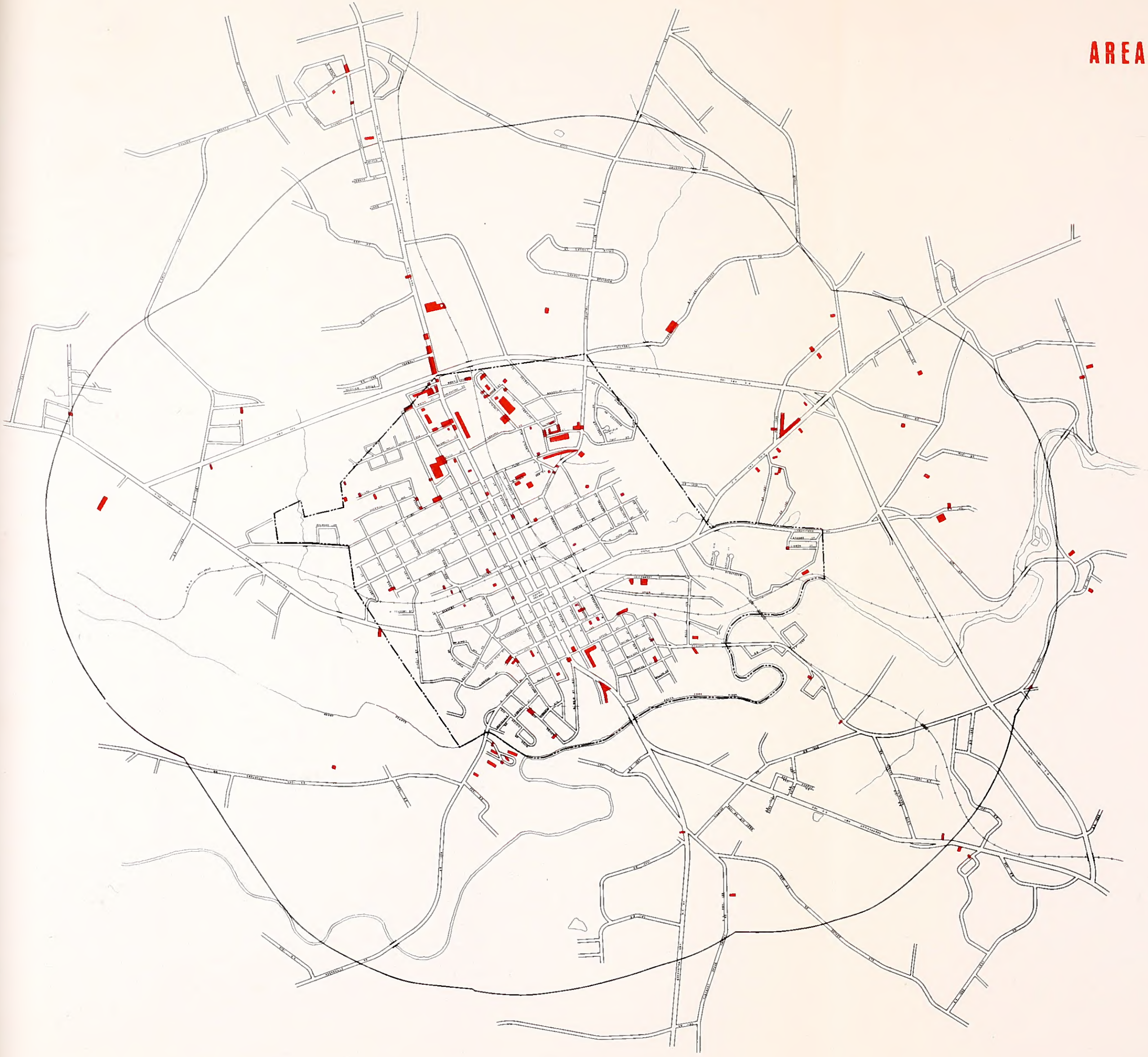
The study areas which have the highest number of minor repair structures are Study Areas 2, 4, and 5. These three study areas have a total of 362 minor repair structures. In all study areas within the corporate limits, whites out-number non-whites in minor repair dwellings. There is a total of 410 minor repair structures for both white and non-white combined within the corporate limits.

Study Areas 6, 7, and 9 in the fringe area have the highest number of minor repair structures. These three study areas have a total of 156 structures which need minor repair work. For the entire planning area there are 591 dwelling units which need minor repairs.

AREAS OF SUB·STANDARD HOUSING

LINCOLNTON

NORTH CAROLINA



MAP-9

The study area within the corporate limits with the least amount of poor housing and the highest amount of conserve housing is Study Area 3, located on the northwest side of Lincolnton. The five study areas within the corporate limits have a total of 1,102 conserve structures. The fringe study area with the highest number of conserve dwellings is Study Area 7, with 248. The entire planning area has a grand total of 1,896 conserve dwellings.

Table 6, Structure Types, shows individual structure types for each of the ten study areas. The different structures are listed as:

Single-Family:	one-family detached structures.
Two-Family:	two-family, semi-detached structures.
Apartments:	structure or structures in which more than two families have their homes. This includes apartment houses, group housing and housing projects.
Mixed Uses or Home Occupations:	an occupation conducted in a residence.
Garage Apartments:	single room(s) to individuals not equipped with facilities other than bath.
Trailers:	individual trailers not located in a trailer park or court.

The most significant points of this table are easily seen. For instance, Study Area 4 has the greatest number of single-family structures (498). This study area and Study Area 5 have the same number of two-family structures -- 20 each. Study Area 2 has six home occupations. This study area, along with Study Areas 4 and 5 are the only three study areas which have home occupations or mixed uses. Study Areas 3 and 4 each have one garage apartment. There are some trailers in every study area within the corporate limits, except Study Area 1 (CBD). The two study areas which have the highest number of individual trailers are Study Areas 4 and 2, in rank order. Study Area 4 has nine trailers and Study Area 2 has six.

There are ten duplexes in the fringe area; there are no apartments in the fringe area, but there are two garage apartments. In all comparisons, totals for the corporate limits exceed those for the fringe area, except with reference to trailers, where the fringe area has 13 more.

Table 7 shows the density of housing for single-family, two-family, and mobile homes for the entire planning area, and Table 8 shows the average number of dwelling units per acre for each of the ten study areas.

There are approximately 715 acres of land being used for residential purposes. Of this total, 406.68 acres are within the corporate limits of Lincolnton. The Land Use Analysis also shows that there are 2,777 dwelling structures for the entire planning area -- 1,719 within the corporate limits. From the average number of housing units per acre of developed land, one can determine what parts of town are overcrowded. These averages were calculated for Lincolnton from the above figures.

The average density for Lincolnton is approximately 4.2 housing units per acre of developed land within the corporate limits and approximately 3.4 housing units per acre of developed land within the fringe area. The highest densities are concentrated in Study Areas 1, 5, and 2 in town, and Study Areas 6, 9 and 7 in the fringe area. Study Area 1's density ratio is misleading because there are so few houses in the area, whereas Study Area 5 has 479 houses on 100.21 acres.

It is interesting to note that the heaviest concentrations are found in two areas where some of the worst housing conditions exist. This is especially true for Study Area 5, although where deterioration is dominant density ranges from medium to low.

SOCIAL AND CULTURAL

Social and cultural uses include the following: schools, churches, medical facilities, cemeteries, golf courses, and any other institutional use which contributes to the well-being of the Town of Lincolnton. Within the categories of social and cultural land use there are two breakdowns: one, public, the other quasi-public. Public uses consist of city-owned property such as schools, public buildings, etc. Quasi-public consists essentially of public uses or services rendered but usually owned by private citizens or corporations. Such uses could be churches, golf courses, fraternal organizations and cemeteries.

Within the entire planning area there are 155 acres used for both public and quasi-public purposes. This represents about five per cent of the developed land in the planning area. The town proper has 46 acres of this total and this represents about three per cent of the developed land in this area. The fringe area has 108 acres in public and quasi-public uses and this represents approximately two per cent of all developed land within the fringe area. The apparent reason for the fringe area having more land in cultural and social use is that large areas of land for schools, cemeteries, golf courses, and so forth, are hard to come by within the corporate limits. Of the ten study areas there are four areas which have a high number of acres in social and cultural land use -- Study Areas 4 and 5 in town, and Study Areas 9 and 10 in the fringe area. In Study Area 4 there are many churches, plus Park Elementary School and Hollybrook Cemetery. In Study Area 5 there are three schools -- two of them on South Aspen Street and one non-white school at the end of Catawba Street. Study Area 9 has the County prison camp and a cemetery located within its boundaries. The Country Club is located in Study Area 10. These four study areas account for 63 per cent of the acreage in the social and cultural category.

TABLE 2 Lincolnton Land Use -- Acreages

Study Areas	1	2	3	4	5	Total Acreages in Town
Transportation						
Streets	12.32	46.32	34.93	53.11	52.85	199.53
Railroads	3.54	23.43		7.90	14.62	49.49
Other	5.25	.99	.92	4.19	4.77	16.12
Production						
Manufacturing	.26	1.06		5.51	.48	7.31
Manufacturing Services	2.13	20.79	5.32	5.14	12.78	46.16
Business						
Retail Trade	3.23	3.86	.59	3.09	2.86	13.63
Wholesale Trade	1.80	.15	.22	1.18	.37	3.72
Services						
Consumer	1.47	.11	.18	1.36	1.32	4.44
Professional	.81	.22	.11	.77	.26	2.17
Business	.48	.11	.26	1.51	.59	2.95
Residence						
Single-Family	1.73	88.41	70.19	135.09	96.05	391.47
Multi-Family	1.06	1.54	2.24	3.93	3.56	12.33
Trailers		.77	.26	1.25	.59	2.88
Social and Culture						
Public	2.13	2.28	7.97	2.64	9.92	24.94
Quasi Public	2.02	4.30	1.32	12.63	1.18	21.45
Total Developed Acres	38.23	194.34	124.51	239.30	202.20	798.58
Open Land						
Vacant and Farm	3.16	173.66	123.23	108.24	189.05	597.34
Total Acres	41.39	368.00	247.74	347.54	391.25	1,395.92

TABLE 2 (Continued) Lincolnton Land Use -- Acreages

Study Areas	6	7	8	9	10	Total Acreages in Fringe Area
Transportation						
Streets	89.29	83.08	37.28	95.24	54.84	359.73
Railroads	34.71	--	16.27	12.60	--	63.58
Other	.44	.55	--	1.36	.15	2.50
Production						
Manufacturing	--	--	1.32	--	--	1.32
Manufacturing Services	9.29	2.06	12.64	49.77	--	73.76
Business						
Retail Trade	1.29	2.68	1.14	9.25	1.10	15.46
Wholesale Trade	.66	1.65	.33	1.95	.37	4.96
Service						
Consumer	.37	.15	.70	1.25	--	2.47
Professional	.07	.15	1.10	.15	--	1.47
Business	.37	.18	--	.37	.37	1.29
Residence						
Single-Family	77.83	93.70	29.57	61.89	35.92	298.91
Multi-Family	.99	1.03	--	.88	.18	3.08
Trailers	1.51	1.36	1.61	1.03	.81	6.32
Social and Culture						
Public	1.03	--	12.64	.51	61.16	75.34
Quasi Public	.88	1.51	.37	29.64	.88	33.28
Total Developed Acres	218.73	188.10	114.97	265.89	155.78	943.47
Open Land						
Vacant and Farm	987.01	1,110.75	1,216.46	1,223.66	631.64	5,169.52
Total Acres	1,205.74	1,298.85	1,331.43	1,489.55	787.42	6,112.99

TABLE 3 Lincolnton Land Use -- Percentages

Study Areas	1	2	3	4	5	Per Cent of All Acreage in Town	Per Cent of Total Acreage, Dev. and Undev.
Transportation							
Streets	32.24	23.82	28.05	22.19	26.15	24.98	14.28
Railroads	9.26	12.05		3.30	7.23	6.20	3.55
Other	13.73	.51	.74	1.75	2.36	2.20	1.15
Production							
Manufacturing	.69	.55		2.30	.24	.92	.52
Manufacturing Services	5.58	10.70	4.27	2.15	6.32	5.78	3.31
Business							
Retail Trade	8.45	1.99	.47	1.30	1.41	1.71	.98
Wholesale Trade	4.71	.08	.18	.49	.18	.47	.27
Services							
Consumer	3.85	.06	.14	.58	.65	.56	.32
Professional	2.12	.11	.09	.32	.13	.27	.16
Business	1.26	.06	.21	.63	.29	.37	.21
Residence							
Single-Family	4.53	45.49	56.37	56.45	47.50	49.02	28.04
Multi-Family	2.77	.80	1.80	1.64	1.76	1.54	.88
Trailers		.40	.21	.52	.29	.36	.21
Social and Cultural							
Public	5.52	1.17	6.41	1.10	4.91	3.12	1.79
Quasi Public	5.29	2.21	1.06	5.28	.58	2.68	1.54
Total Developed	100.00	100.00	100.00	100.00	100.00	100.00	57.21
Per Cent of Total Acreage							
Developed	92.37	52.81	50.26	68.86	51.68	57.21	
Vacant	7.63	47.19	49.74	31.14	48.32	42.79	42.79
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 3 (Continued) Lincolnton Land Use -- Percentages

Study Areas	6	7	8	9	10	Per Cent of All Acreage in Fringe Area	Per Cent of Total Acreage, Dev. and Undev.
Transportation							
Streets	40.44	44.16	32.32	35.82	35.20	38.05	5.89
Railroads	15.74	--	14.14	4.74	--	6.72	1.03
Other	.20	.28	--	.51	.09	.27	.04
Production							
Manufacturing	--	--	1.37	--	--	.14	.02
Manufacturing Services	4.21	1.08	11.00	18.72	--	7.80	1.20
Business							
Retail Trade	.57	1.48	.98	3.48	.70	1.63	.25
Wholesale Trade	.30	.88	.29	.73	.24	.52	.09
Services							
Consumer	.17	.08	.61	.47	--	.26	.04
Professional	.03	.08	.96	.06	--	.16	.02
Business	.17	.08	--	.14	.24	.14	.02
Residence							
Single-Family	36.17	49.81	25.72	23.28	23.06	31.83	4.92
Multi-Family	.45	.55	--	.33	.11	.33	.05
Trailers	.68	.72	1.40	.39	.52	.67	.10
Social and Cultural							
Public	.47	--	10.95	.18	39.27	7.96	1.23
Quasi Public	.40	.80	.26	11.15	.57	3.52	.55
Total Developed	100.00	100.00	100.00	100.00	100.00	100.00	15.47
Per Cent Total Acreage							
Developed	18.28	14.48	8.64	17.85	19.79	15.47	
Vacant	81.72	85.52	91.36	82.15	80.21	84.53	84.53
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

TABLE 4 Dwelling Units Quality

Study Areas	Total White and Non-White D.U.'s	Standard Dwelling Units		Substandard Dwelling Units	
	Number	Number	Per Cent	Number	Per Cent
1	22	17	77.27	5	22.73
2	394	359	91.12	35	8.88
3	289	272	94.12	17	5.88
4	535	476	88.97	59	11.03
5	479	412	86.01	67	13.99
Total City	1,719	1,536	89.35	183	10.65
6	304	289	95.07	15	4.93
7	316	294	93.04	22	6.96
8	87	83	95.40	4	4.60
9	229	204	89.08	25	10.92
10	122	107	87.70	15	12.30
Total Fringe Area	1,058	977	92.34	81	7.66
Total Planning Area	2,777	2,513	90.49	264	10.51

TABLE 5 Number of Structures by Classification

Study Areas	Conserve		Minor Repair		Major Repair		Dilapidated		Total Structures	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
1	7		10		3		2		22	0
2	257	3	70	29	17	15	1	2	345	49
3	231	1	37	3	7	5	4	1	279	10
4	336	20	85	35	15	38	4	2	440	95
5	262	9	114	27	41	7	12	7	429	50
Total City	1,102	33	316	94	83	65	23	12	1,515	204
6	210		78	1	6	1	7	1	301	3
7	248		46		19		3		316	
8	76		7		2		2		87	
9	171	2	28	3	1	19	4	1	204	25
10	89		17	1	6	5	2	2	114	8
Total Fringe Area	794	2	176	5	34	25	18	4	1,022	36
Total Planning Area	1,896	35	492	99	117	90	41	16	2,537	240

TABLE 6

Lincolnton Structure Types

Study Areas	Single-Family	Two-Family	Apartments	Mixed Uses or Home Occu.	Garage Apartments	Trailers
1	14	8	--	--	--	--
2	376	6	--	6	--	6
3	278	8	1	--	1	2
4	498	20	2	4	1	9
5	451	20	--	4	--	4
Total City	1,617	62	3	14	2	21
6	295	2	--	1	1	5
7	300	4	--	1	--	11
8	78	--	--	--	--	9
9	219	3	--	1	1	5
10	117	1	--	--	--	4
Total Fringe	1,009	10	--	3	2	34
Total Planning Area	2,626	72	3	17	4	55

TABLE 7 Lincolnton Housing Density by Type of Unit

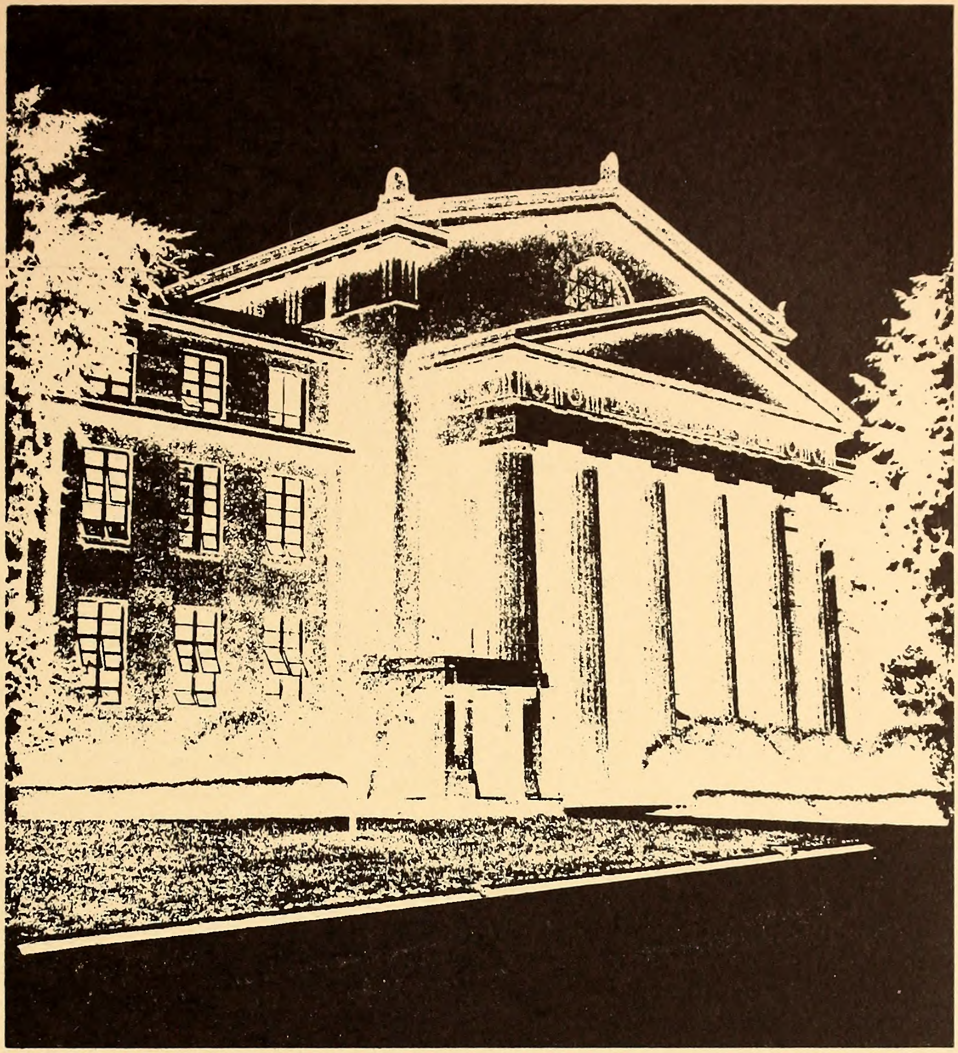
Housing Type for Study Areas 1 through 5	Number of Units	Acreage	Average Number of Housing Units Per Acre
Single Family	1,617	386.69	4.1
Two-Family	62	12.18	5.1
Apartments	3	.66	4.5
Mixed Uses	14	3.90	3.6
Garage Apartments	2	.37	5.4
Trailers	21	2.88	7.3
Total	1,719	406.68	4.2

Housing Type for Study Areas 6 through 10	Number of Units	Acreage	Average Number of Housing Units Per Acre
Single Family	1,009	298.25	3.5
Two-Family	10	2.75	3.6
Apartments	--	--	--
Mixed Uses	3	.66	4.5
Garage Apartments	2	.33	6.1
Trailers	34	6.32	5.4
Total and Average	1,058	308.31	3.4
Grand Total for Entire Planning Area	2,777	714.99	3.9

TABLE 8

Housing Density for Individual Study Areas

Study Areas	Number of Units	Acreage	Average Number of Housing Units Per Acre
1	22	2.79	7.9
2	394	90.72	4.3
3	289	72.69	4.0
4	535	140.27	3.8
5	479	100.21	4.8
Total City	1,719	406.68	4.2
6	304	80.33	3.8
7	316	96.09	3.8
8	87	31.18	2.8
9	229	63.80	3.6
10	122	36.91	3.3
Total Fringe	1,058	308.31	3.4
Total Planning Area	2,777	714.99	3.9



LINCOLNTON, NORTH CAROLINA

LAND DEVELOPMENT PLAN

LAND DEVELOPMENT PLAN

"Make no little plans; they have no magic to stir men's blood and probably will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency. Remember that our sons and grandsons are going to do things that would stagger us. Let your watchword be order and your beacon beauty."

Daniel Burnham

CHAPTER IV

LAND DEVELOPMENT PLAN

The "Plan" portion of this report is based on the various physical elements and of land use factors, population and economic appraisals already discussed. Map 10, The Land Development and Sketch Thoroughfare Plan, brings all of these elements together into a unified guide for the future development of Lincolnton. It shows short-range development, which should take place in the initial planning period of twenty years and long-range development which will more than likely take place ten to fifteen years beyond the planning period. One or two sizeable new industries locating in Lincolnton could influence the long-range development, but it will be assumed that the entire planning area will not be completely developed by 1980.

The tables which follow were taken from the Population and Economic Report[*], to support the reasoning behind the Land Development Plan. The projected figures are not predictions -- they are intended as a guide to future growth.

TABLE 9 POPULATION PROJECTIONS, 1960-1980, BY MINOR CIVIL DIVISIONS

	1960		1970			1980		
	Number	Per Cent Total Pop.	Number	Per Cent Total Pop.	Per Cent Change	Number	Per Cent Total Pop.	Per Cent Change
Catawba Springs	2,684	9.3	2,382	8.1	-11.3	2,049	6.9	-14.0
Howard Creek	3,218	11.2	2,763	9.4	-14.1	2,288	7.7	-17.2
Ironton	4,868	16.9	6,438	21.9	32.3	8,259	27.8	28.3
North Brook	3,618	12.8	3,234	11.0	-12.1	2,733	9.2	-18.3
Lincolnton	14,363	49.8	14,581	49.6	1.5	14,379	48.4	- 1.4
Lincoln County	28,814	100.0	29,398	100.0	2.0	29,708	100.0	1.1

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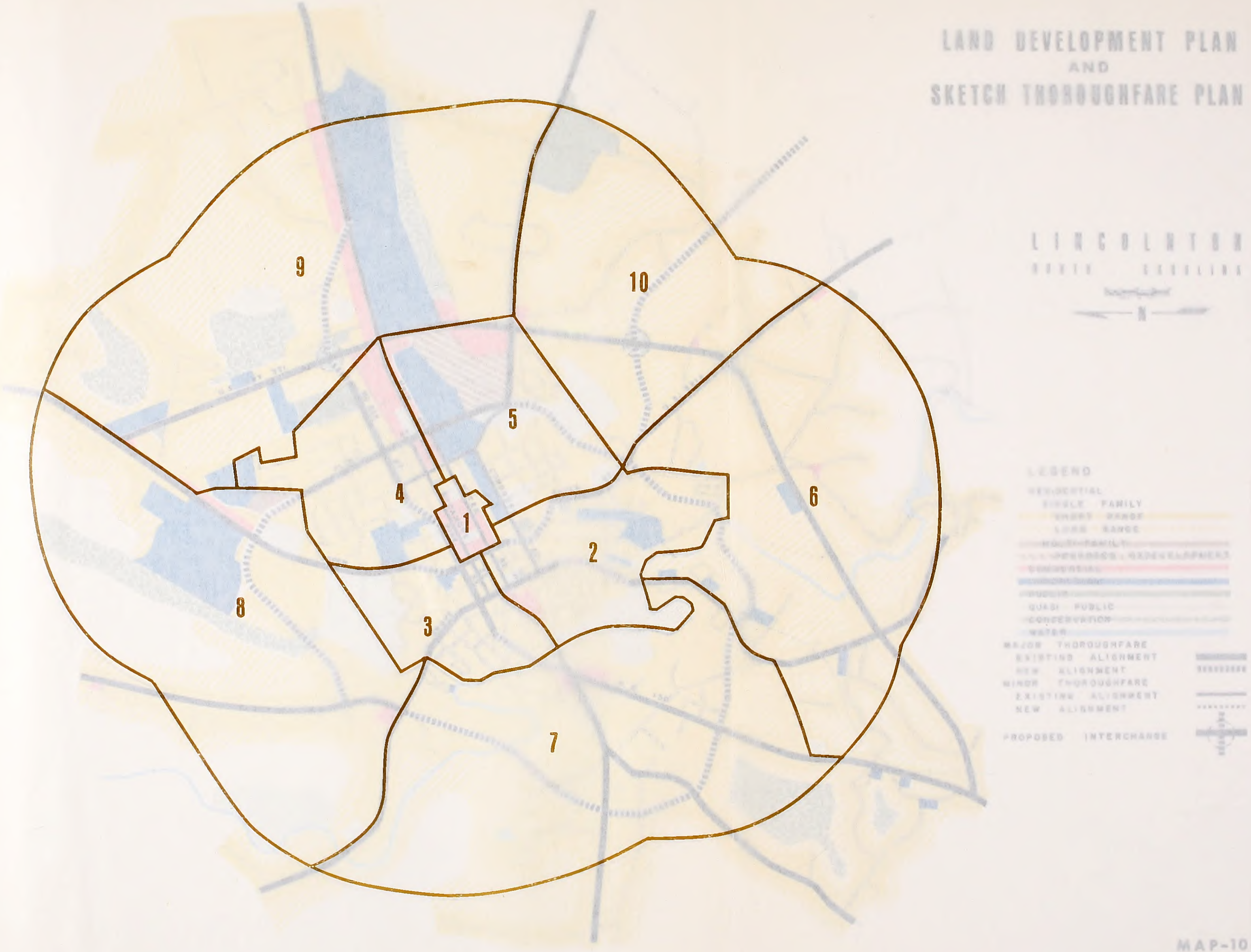
[*] Population and Economy Report, City of Lincolnton, North Carolina, May, 1965, p. 14, Division of Community Planning

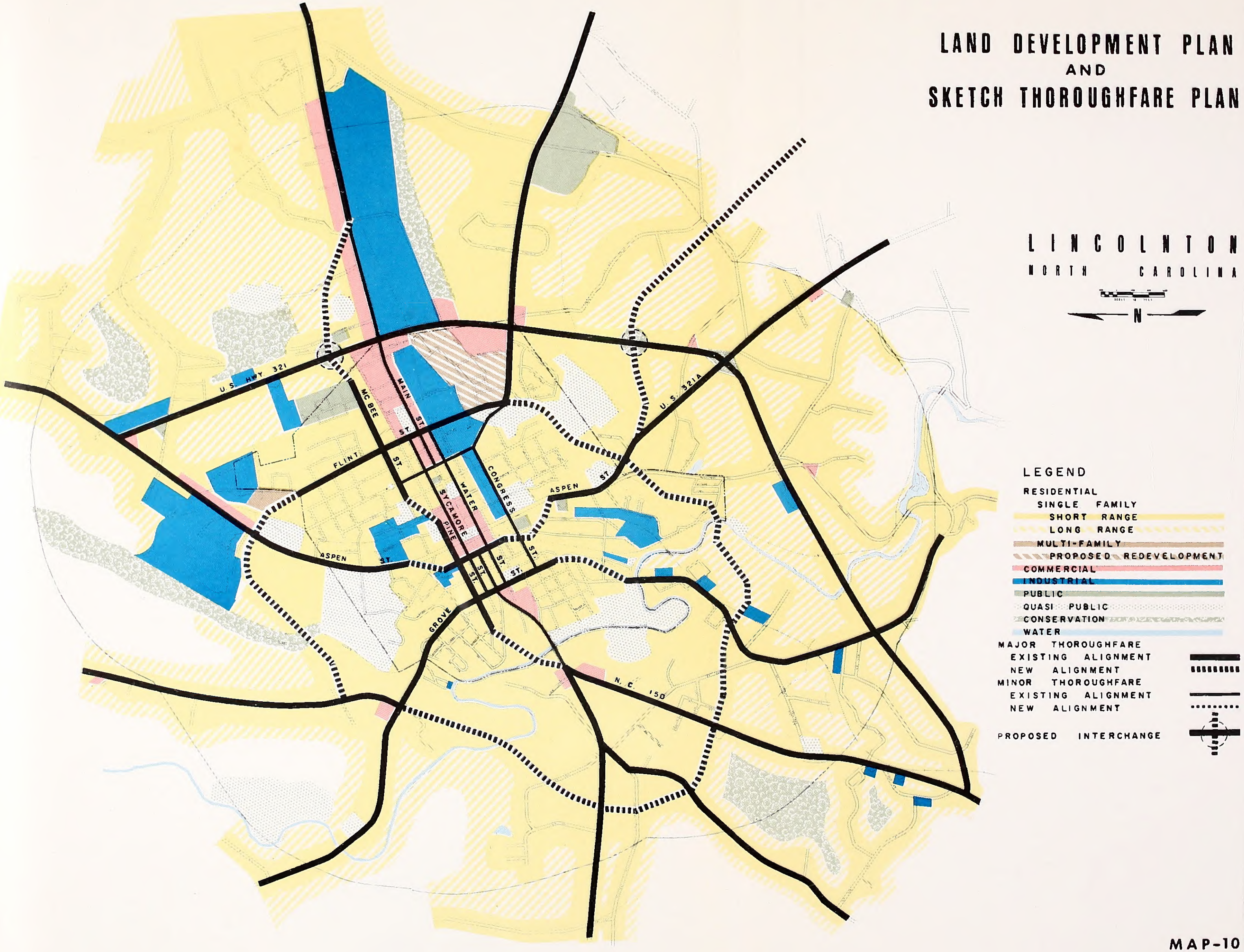
LAND DEVELOPMENT PLAN
AND
SKETCH THOROUGHFARE PLAN

LINCOLNTON
NORTH CAROLINA



MAP-10

LAND DEVELOPMENT PLAN
AND
SKETCH THOROUGHFARE PLAN



MAP-10

TABLE 10 Employment Projections -- 1960-1980
Lincolnton and Lincolnton Township

Employment	Lincolnton			1960-80 Per Cent	Lincolnton Twp.			1960-80 Per Cent
	1960	1970	1980	Change	1960	1970	1980	Change
Manufacturing	833	806	798	- 4.2	2,725	2,618	2,572	- 5.6
Construction	164	181	200	22.0	444	490	541	21.8
Transportation	122	132	144	18.0	322	345	371	15.2
Communication and Utilities	57	65	75	31.6	143	164	188	31.5
Commerce	540	627	732	35.6	986	1,120	1,273	29.1
Personal Service	149	171	197	32.2	239	271	309	29.3
Professional Service	301	460	707	134.9	535	813	1,243	132.3
Agriculture, Forestry, and Fisheries	8	5	3	-62.5	141	87	54	-61.7
TOTAL EMPLOYED	2,161	2,432	2,838	31.3	5,615	5,998	6,652	18.5

Source:
Population and Economy Report, Town of Lincolnton, North Carolina, May, 1965, Page 30., Prepared by Department of Conservation and Development, Division of Community Planning.

It has been assumed for purposes of this report that future land uses will occur at approximately the same density as now exists and be directly proportional with population and employment increases. The Land Development Plan establishes a pattern for the use of land to accommodate various functions along with a pattern of future principal traffic arteries. It is based on the anticipated size of population which has been estimated to lie between a high 6,500 to a low 6,100 -- depending largely on economic circumstances.

TABLE 11 Existing, Projected and Allocated Land Uses for the Lincolnton Planning Area

Land Uses	Existing	Projected	Total Allocated*
Residential	715.0	765.4	1,530.8
Commercial	52.5	22.7	46.4
Industrial	128.5	121.7	365.0
Public and Quasi Public	155.0	102.0	205.9
Transportation	690.0	136.6	160.0
TOTAL	1,741.0	1,148.4	2,308.1

*Estimated.

Based on these findings and projections, the Planning Board has compiled basic goals to guide the future Land Development Plan in its achievements, some of which are:

Land Use: To provide for a systematic relationship in direction, proportion and distribution of land use within Lincolnton's planning area.

Transportation: To provide coordination for the various land uses as related to circulation routes to and from the city for people, goods, and services.

Utilities and Facilities: To provide utilities and facilities for the entire planning area in the quantity and quality desired.

Population: To organize and motivate the local citizens in order to make and implement the planning policies in their best interest.

Economy: To provide for economic growth, equitable distribution of income, utilization of resources, and optimum employment opportunities.

Social: To provide an environment in which people of various races, beliefs and values can satisfy their needs, wants and desires harmoniously.

Education: To provide adequate education for all segments of the population and to prepare them for useful and satisfying lives.

Recreation: To provide for the physical development and leisure time opportunities of all the people.

Housing: To provide a variety of adequate shelter for all socio-economic groups within the planning area.

Government and Planning: To provide a governmental and planning framework in which the solutions to Lincolnton's problems can be determined and effectuated. To encourage the compact development of the planning area by avoiding large, vacant gaps in the partially developed areas and, therefore, reduce utility extension costs and the cost of general town government.

Residential Development

Data based on past needs and a ratio formula which ties a direct relationship between population and land uses will be basic factors for arriving at future residential uses. For example, 20 acres of residential land use per 100 persons of the total population is equal to "x" acres per 100 persons increment forecasted.* The projected population of Lincolnton shows an increase of 401 persons over the 1960 census.

Density Ratio Formula

Given: 5,699 = persons (1960 population of Lincolnton)
715.10 = actual residential acres being used within the planning area.

$$\frac{5{,}699 \text{ persons}}{715.10 \text{ acres}} = \frac{6{,}100 \text{ persons (projected)}}{x}$$

$$6{,}599x = 6{,}100(715.10)$$

$$x = \frac{6{,}100(715.10)}{5{,}699}$$

$$x = 765.41 \text{ acres}$$

The areas shown as residential on the Land Development Plan are about two times as much as this formula indicates.

If Lincolnton's economic situation remains static, the population is likely to shrink because of the present tendency toward out-migration. If this is the case, the building of new homes will be chiefly to replace obsolete housing. However, plans for the future are based on the probability of an increase in the population. Therefore, planning of residential areas is based on the assumption that there will be four average densities of single-family residential developments and one average density for multi-family development.

The most intensely developed area is within the corporate limits of the city, with 4.2 housing units per acre. It is doubtful that this area can grow anymore without annexing, but if it does, future density should not exceed seven one-family houses to the acre within this area, or fourteen families per acre in dwellings for more than one family. Lincolnton is a small city and much of the existing blight and deteriorating tendencies are caused by congestion. Most of the structures, both old and new, are frame with insufficient space and the danger of becoming fire hazards.

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*Density Ratio Formula.

In the suburban areas where the present density of population is considerably less, the density should not be more than four families to the acre in single-family houses, or eight families per acre in dwellings for more than one family. The town's sanitary sewer and water systems were given consideration in the delineation of land for residential growth for the two types of areas. It would be unsafe to rely on private sewage disposal where there are more than two dwellings to the acre. Extension of the sewer system will prove uneconomical in many places because of topographical conditions which would prevent gravity flow and require pumping installations. The present treatment plant is operating at capacity and would require enlargement if there were to be any considerable extensions of the system.

There are extensive areas beyond the suburban types of development suitable for residential use. The largest of these lies to the southeast of the town proper, near the Country Club section, with the principal approach from Country Club Road and Victory Grove Road or Church Road. The areas are known as Fores Hill Extension, Litha Heights, Abernethy Heights and Lee Wood Acres. The Land Development Plan indicates improvement to the circulation for this area. Another similar area is in the western part of the fringe area. These areas in general are located so that public water can be extended to serve them, although for the most part they lie beyond the practical or economical limits of public sewerage. Therefore, a density of not more than two families per acre is established for them by the Land Developmen Plan for one-family dwelling units, or four families per acre in dwellings for more than one-family units.

The fourth type of residential area lies outside the other three and, in general, is beyond the present limits of public water supply. While it would be possible to serve areas of this type by installation of pumping systems, there is little probability of a sufficient development at any one point to make it economically feasible. There are few dwellings in these areas at present, and it is not likely that there will be more except for small numbers of scattered country homes. These areas border along the one mile perimeter which surrounds the Town. Since all buildings will be served by private wells and septic tanks it is not deemed safe to allow lots of less than one-half acre,or a maximum density of more than two families per acre. These particular areas are partly mountainous and distinctly rural in character. It is feasible to permit a somewhat greater flexibility of use than in the strictly residential sections. Under proper controls such uses could be permitted as farm stands, commercial green houses, or a portable sawmill needed for forestry activities.

The areas which have been planned for multi-family living are within the corporate limits of Lincolnton. The two areas on the east side of town which are shown as multi-family areas would be ideal for public housing projects. The houses are blighted. The density within the area should not exceed 12 families per acre.

The residential section of the Land Development Plan considered such elements as:

Access: Residential areas should be so located that they facilitate travel between them and places of major employment such as industrial and commercial districts.

Traffic: Through traffic should be kept out of residential areas. This can be brought about through the enforcement of subdivision regulations and by designing arteries on the outside boundaries of the residential areas.

Population: It is important to distribute housing in all parts of the city in a manner that eases relationships between people, goods and services. Therefore, the plan should recognize the need for residential areas of a variety of densities to meet various needs and incomes.

Density: Usually densities are the highest around the core area of the city (commercial area) and around industrial areas. Density, when once established by the plan and enforced through zoning, will set the basis for planning schools, streets and public utilities.

Residential planning should be closely related to all the elements of the neighborhood plan -- such as street layout and the location of schools, community facilities and shopping centers. Hence, good planning should consider such criteria as light and air in the dwellings, protection against noise and odors, family needs for outdoor space, and safety from accidents and fire.

Commercial Development

Approximately 42.56 acres of land devoted to commercial uses include retail trade, wholesale trade, consumer service, professional services, and business services, and comprise about 2.36 per cent of the developed acres. Harland Bartholomew developed a fairly accurate procedure for estimating preliminary commercial uses for cities.* This formula shows cities should have approximately 3.32 per cent of their developed acreage in commercial uses. Using this formula, Lincolnton is approximately .96 per cent lacking in commercial acres for its developed area. This is equivalent to approximately 16.7 acres. The Land Development Plan has set aside approximately ten acres in shopping centers and about five acres for other commercial uses within the planning area.

The plan shows three classifications of commercial uses. The first provides for the typical neighborhood group of stores, including offices, banks, retail stores, restaurants, but not taverns, funeral homes and gasoline stations. Actually, this type of classification could come under the term "neighborhood shopping centers". Neighborhood shopping centers have grown in size and increased in number because they fit into the pattern of living in urbanized areas. The Plan assigns areas for this type of development in two sections of Lincolnton -- the southeast side of town near the 150 Bypass and Gaston Street, and the west side near the intersection of U. S. Highway 27 and Highway 150. The proposed shopping center on the southeast side of town may be developed in the next couple of years, whereas the one which is proposed on the west side of town may not come about until 1980. In setting aside the acreage for the neighborhood shopping center, the following table was used. The last column of this table was estimated to fit Lincolnton's future population.

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*Harland Bartholomew, Land Uses in American Cities, Cambridge: Howard University Press, 1955, page 47.

Approximately 124,000 square feet (3.0 acres) for the proposed shopping center located off the 150 Bypass will be needed. The shopping center on the west side of town will need approximately 145,750 square feet (3.7 acres).

One of the major intentions of the Land Development Plan is to discourage the uncontrolled expansion of strip commercial along U. S. Highways 150 and 27, or any other local roads which are cluttered or uncontrolled. This will be done by consolidating these uses into logical areas so as to conform through zoning and subdivision regulations.

The second type of commercial development is intended to provide for the Central Business District. It includes offices, stores, hotels, theaters, banks, and government buildings, and so forth. The main intention of the plan would be to make the central core area into a governmental-shopping complex oriented around a pedestrian mall down East Main Street. The purpose is not to stymie merchants and their businesses, but to improve and enhance the central core of the town. This can be done if implemented and coordinated by the following suggestions:

1. Make Sycamore Street one-way going west, starting at West Main Street and North Government Street to Cedar Street and East Main Street.

2. Make Water Street one-way going east, starting at East Main Street and Cedar Street to North Government and West Main Streets.

TABLE 12

Neighborhood Shopping Center Size*
Assumed Component Used and Total Area by Population of Neighborhood[a]

Shopping Center	1,000 pers. 275 fam.	2,000 pers. 550 fam.	3,000 pers. 825 fam.	4,000 pers. 1,000 fam.	5,000 pers. 1,375 fam.
Component Used	Neighborhood Population				
1. Ground area of buildings[b] sq. ft.	9,000	14,000	18,000	22,000	25,000
2. Customer auto parking[c] sq. ft.	18,000	28,000	36,000	44,000	50,000
3. Gas station sq. ft.	--	--	24,000	24,000	24,000
4. Circulation service and setback[d] sq. ft.	6,800	10,500	19,500	22,500	25,000
Total Area					
5. Square feet	33,800	52,500	97,500	112,500	124,000
6. Acres	.80	1.2	2.2	2.6	3.0
7. Acres per 1,000 persons	.80	.60	.75	.65	.60
8. Square feet per family	125	95	120	100	90

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[a] Component used and area therefore will be affected by economic status of residents and local organization of retail service.

[b] Stores and services assumed to include food, drugs, barber and beauty shops, shoe repair, laundry and dry cleaning pick-up station. One-story building assumed, ground area equals total floor area. Equivalent floor area in high building would reduce land requirements for this item and items 4-8.

[c] Parking allowance is twice the floor area of buildings as recommended by various authorities.

[d] Allowance for circulation, service and setback area (to include walks, planting strips, service courts and service parking) is 25 per cent of total of items 1, 2 and 3. No allowance is made here for substantial buffer strip between shopping center and dwelling. This is assumed to be part of neighborhood park.

*Planning the Neighborhood, by the American Public Health Association Committee on

3. Work toward making the first three blocks along East Main Street into a pedestrian mall centering around the Courthouse.

4. Provide for adequate off-street parking for the retail area and for the Courthouse and City Hall. In a recent study conducted by a Traffic and Planning Associates firm in Hickory, a number of areas were pointed out which were available for off-street parking. This study shows there are approximately 374 off-street parking spaces available in the core area. If some of these spaces were developed to their fullest potential, along with perpendicular parking spaces down the center of the first block of West Main Street and the first three blocks of East Main Street, off-street parking would be adequate for the central core area.

5. Initiate a face-lifting of facades and sidewalk canopies.

6. Plant trees and shrubbery throughout this whole area.

Map 11 illustrates the proposed traffic circulation, the Central Business District, and an example of a possible mall-type development.

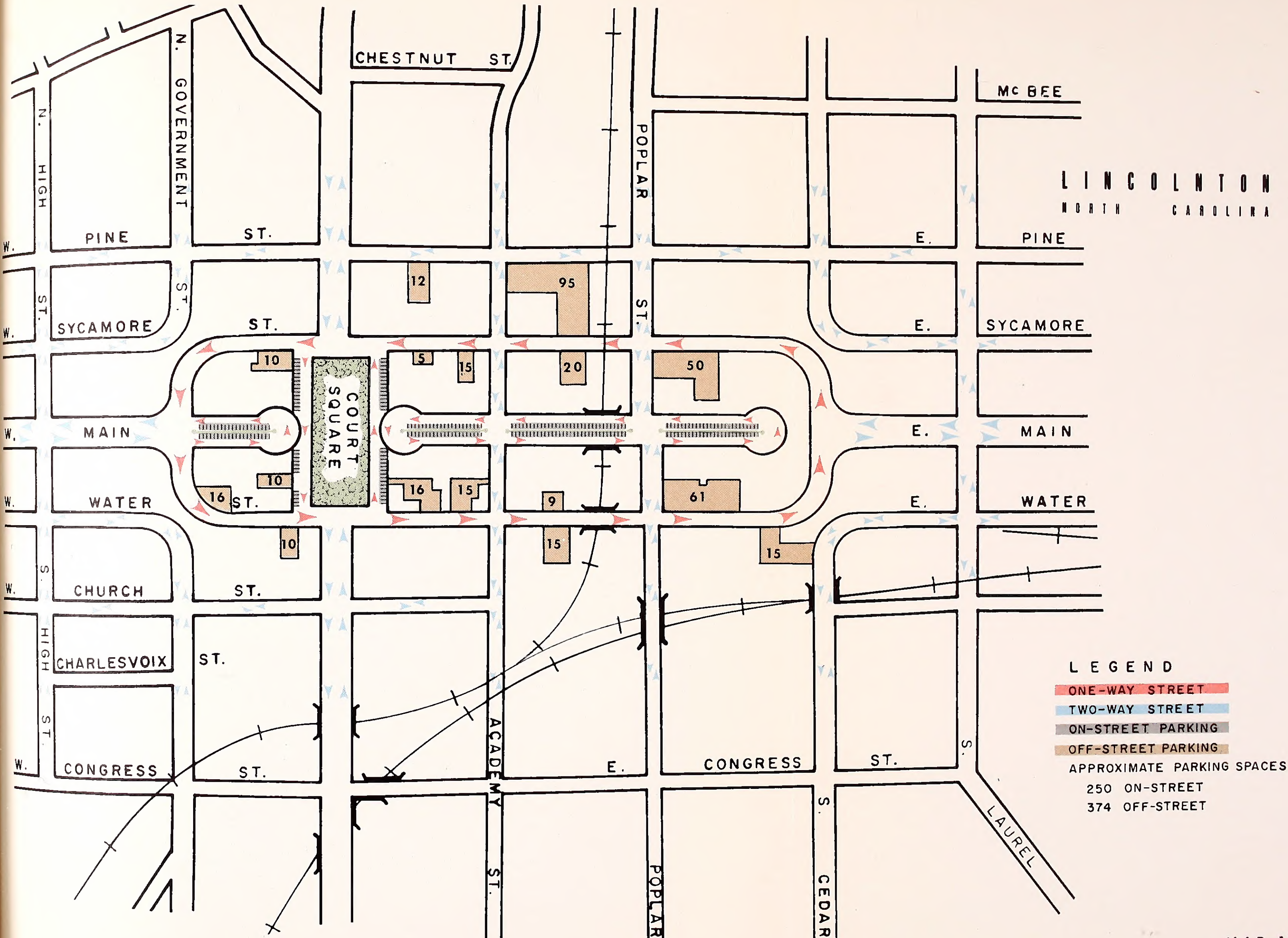
The third type of commercial development for which the plan indicates space (especially along Highway 150 and 27 on the east side of town and past the Bypass 150 and 321) provides for wholesale business, storage, warehouses, lumber yards and similar classes of "heavy" business.

Industrial Development

Lincolnton is primarily dependent on industry for its livelihood and the assignment of sufficient suitable land for that purpose is essential. Modern industry requires adequate space for low buildings, for parking, storage and other purposes. Its sites must be readily available to good highway transportation, and in some cases, to rail facilities. There is relatively little open land meeting these requirements and at the same time suitable topographically except in the northern portion of the town.

The Population and Economic Report, which has been compiled for the town, shows the labor force to be 833 in 1960 engaged in

C B D Proposed Traffic Circulation & Mall-Type Development



MAP-11

manufacturing employment, whereas the Township for the same period noted the labor force to be 2,725 persons. These figures represent 38.6 per cent of the total manufacturing employment in Lincolnton and 48.5 per cent in the Township. From 1950 to 1960, Lincolnton experienced an 8 per cent decline in manufacturing employment in the textile and furniture industries. National trends in these two industries declined 22.3 per cent and 10.8 per cent, respectively.* If present local trends continue (with consideration being given to the National scene), the planning area can expect to have about 2,618 persons employed in manufacturing jobs in 1970 and approximately 2,572 persons employed in manufacturing jobs in 1980. This will amount to about 5.6 per cent decrease over the twenty-year period. Even though this shows a decrease based on past trends which are projected into the future, the planning area will still need industrial acres since automation only cuts down on employment and not necessarily site acreages. Therefore, these estimates can be related to the acreage of land which will be needed.

This relationship is expressed as the industrial density or the number of workers per industrially-used acre. Within the planning area there are approximately 129 acres being used for manufacturing with total employment of 2,725 workers. The industrial density is about 4.7 workers per acre. This is quite low when compared to other urban areas in North Carolina.

To see if the Land Development Plan has allowed for enough industrial acreage, a simple density ratio formula was applied as follows:

$$\frac{\text{1960 Total Manufacturing Employment Workers}}{\text{Acres used for Manufacturing}} = \frac{\text{1980 Total Manufacturing Employment Workers (Projected)}}{x}$$

$$\frac{2{,}725 \text{ Workers}}{129 \text{ Acres}} = \frac{(2{,}572 \text{ Workers})}{x}$$

$$x = 121.75 \text{ Acres}$$

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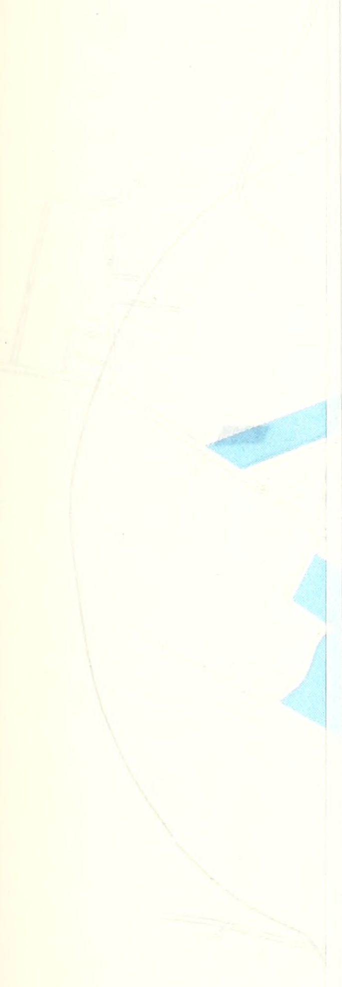
*Population and Economy Report of the Town of Lincolnton, North Carolina, Prepared by Department of Conservation and Development, Division of Community Planning, May, 1965, Page 27.

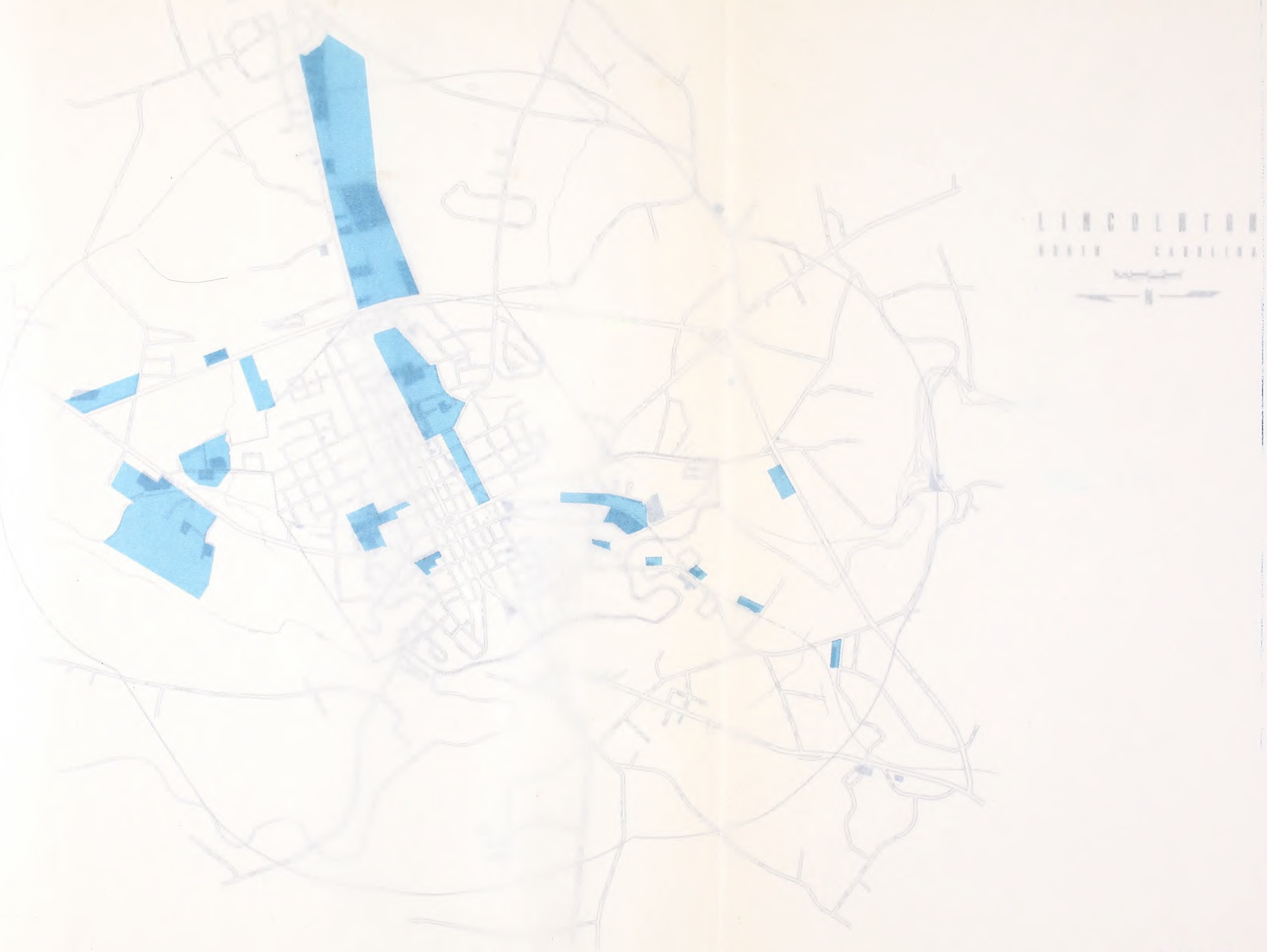
Map 12 shows existing industrial areas which should remain and also some new areas for future industrial development. The latter are principally situated along the U. S. Route 27 and 150 Highway to the east of town. Another sizeable area is shown to the south near the South Fork River. In planning for the industrial areas, the following criteria were taken into consideration:

> _Access_: Industry no longer accepts inaccessible sites reached through narrow residential streets; hence, new industrial sites should be located where they will have convenient access to major arterial streets and railroads. Whenever possible, such industrial areas should be located between the two.
>
> _Dispersal_: Industrial districts should be located in various areas of the town and the one mile area (for those seeking sites outside the town) in order to reduce the time and cost of travel as well as to spread peak-hour traffic loads over many thoroughfares.
>
> _Nuisance_: Modern performance-type zoning should be used to control location of industries on the basis of their peculiar characteristics. Industries of such a nature that nuisance factors cannot be satisfactorily eliminated should be located where they are a minimum detriment to other land uses.
>
> _Site Characteristics_: Reasonably level land is desired and preferably with not more than five per cent slope, allowing for good drainage and capable of being graded without undue expense. Irregular sites with projections, indentations, and acute angles should be avoided.
>
> _Building Line Setback_: Setbacks up to one hundred feet are appropriate along major highways.
>
> _Off-Street Parking_: Areas should be large enough to provide off-street parking for employees, customers and others who service the plant.
>
> _Utilities_: Power, water and waste disposal facilities should be available at or near the site.
>
> _Buffers_: Industrial areas should be separated from residential areas by the use of buffers either man-made or natural topography of the land.

Lincolnton is in need of some diversification in its industries. The Town is dependent mostly on textile industries. An effort to recruit small industries which are not related to the textile fields should be earnestly made to enlarge the economic base and make it more stable in case something should happen to the textile industry.

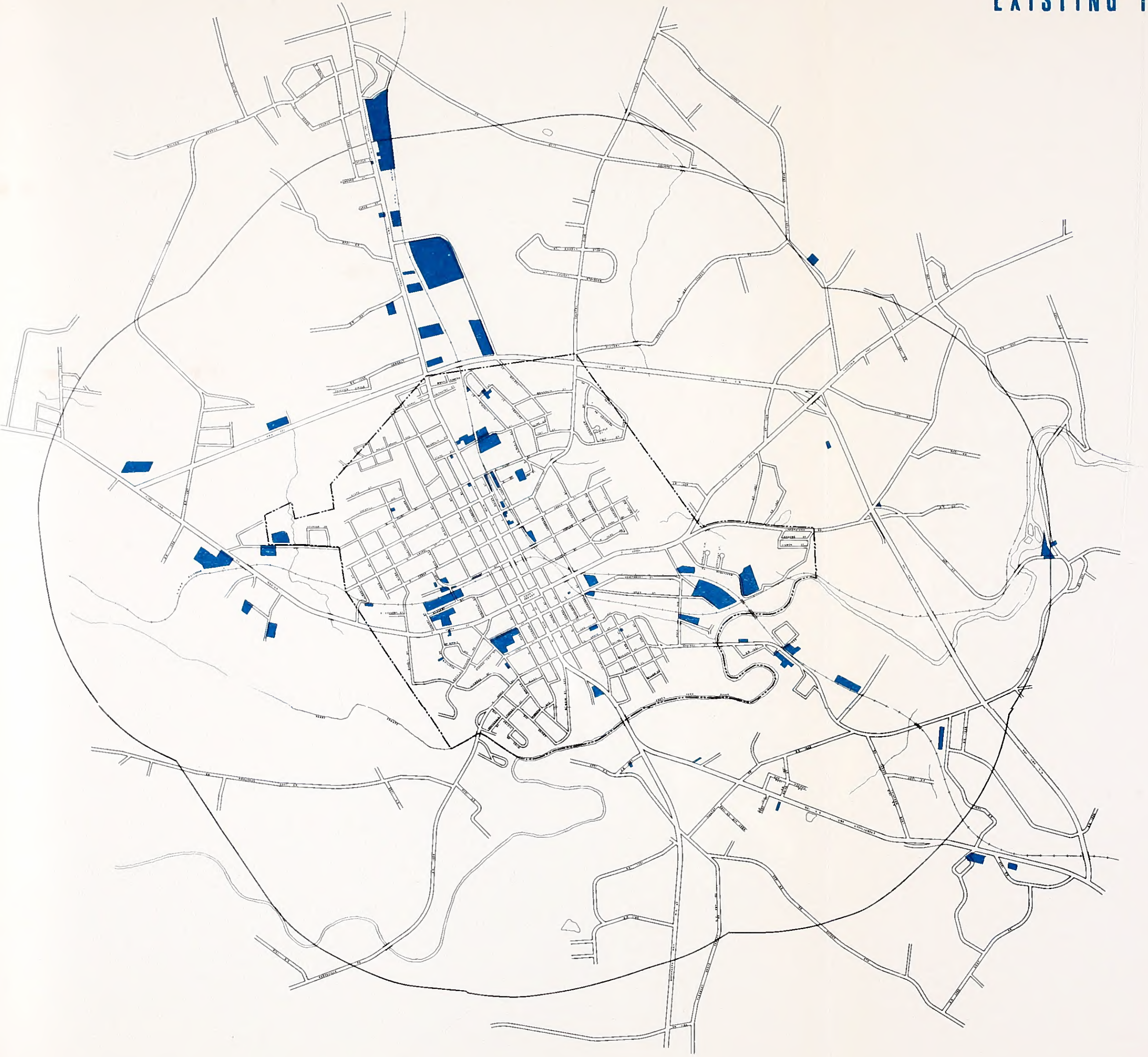


PROPOSED INDUSTRIAL AREAS



MAP-12

EXISTING INDUSTRIAL AREAS



LINCOLNTON

NORTH CAROLINA

MAP-12

COMMUNITY FACILITIES

Community facilities are classified as cultural, protective and administrative. The cultural facilities refer to recreation, schools and libraries. Protective facilities include the police and fire departments, rescue squad, hospitals, and health centers; administrative facilities include the various governmental offices, plus miscellaneous service yards.

Spaces for all these facilities must be found within the urban pattern near people they are to serve. Their size, location and functions need to be in direct proportion to the size of the community and the type of residents they serve. Map 13 illustrates existing and proposed community facilities.

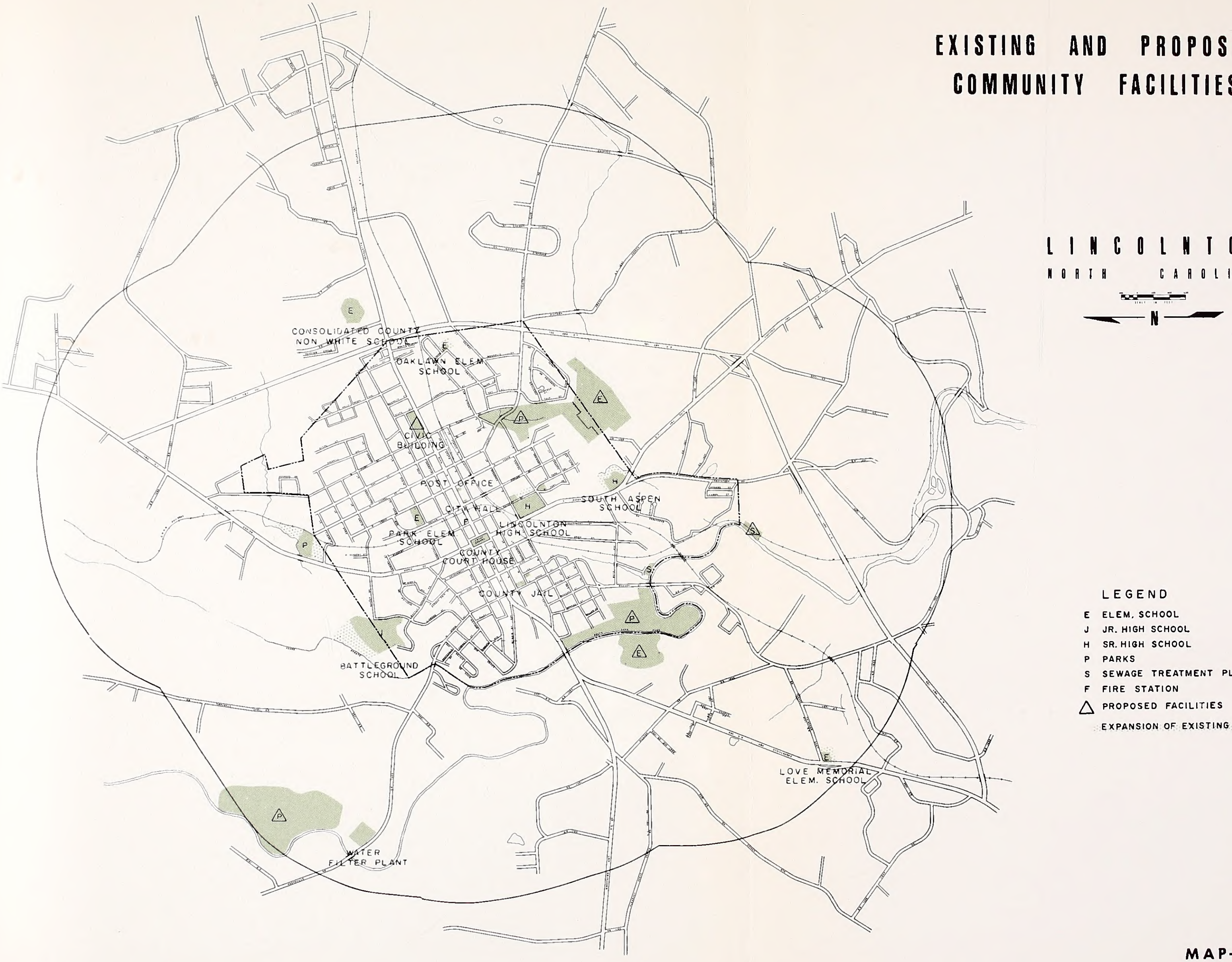
In a recent survey conducted in Lincolnton by the Chamber of Commerce, recreation was the top priority on the list which the citizens of the Town were concerned about. The degree to which the well-being of a community is enhanced is directly dependent upon the extent and quality of utilities and community services offered to its citizens. Hence, future public and quasi-public buildings and lands are of prime importance in creating a better environment for the population of Lincolnton.

RECREATION

Organized recreation is a relatively new service for a municipal government. In most small towns, this concept has not received the attention it should. However, the growth of urbanized areas with little or no open space, and with increasing leisure time for the townspeople, is a demanding problem that must receive more attention. This problem is facing Lincolnton now and it will increase greatly in the years ahead. Therefore, now is the time to plan for parks, baseball fields, swimming pools, tennis courts, and so forth. In many small communities municipal governments have not carried their share of the load. When this happens, private citizens, commercial establishments, industries, have arisen to help. These corporations and private individuals

EXISTING AND PROPOSED COMMUNITY FACILITIES

LINCOLNTON
NORTH CAROLINA



LEGEND

- E ELEM. SCHOOL
- J JR. HIGH SCHOOL
- H SR. HIGH SCHOOL
- P PARKS
- S SEWAGE TREATMENT PLANT
- F FIRE STATION
- △ PROPOSED FACILITIES
- ░ EXPANSION OF EXISTING SITE

MAP-13

cannot fulfill all the needs for recreation; therefore, it is very important that public recreation be provided by the town just as the town provides equal fire and police protection. At the present time the town's Recreation Commission receives from taxes $.08 per every $100 collected. This is not enough money to run and supervise a recreational program for a population over 6,000. Either of two methods of initiating a recreation program are suggested: an increase in the tax levy to include funds for recreation, or the town and other townships investigating a County recreational system. One or the other should be investigated.

At the present time Lincolnton is grossly inadequate in community facilities for the younger citizens -- as well as for the older citizens. Under the survey known as "Phillips 66 Survey Ideals" the citizens stated eleven possible suggestions for recreation improvements for their town. The Plan has taken these suggestions into consideration and has tried to provide for adequate future land for some of these needs.

The existing facilities are:

--Three tennis courts located on school property.

--A nine-hole golf course, with well-kept greens, at the Lincolnton Country Club, along with a swimming pool.

--A 16-lane AMF bowling alley.

--A VFW swimming pool.

--An adult recreational program; softball and physical exercise for women once a week.

--A new memorial stadium for football.

--Recreation fields next to school property.

--A park site at the old water plant containing about 5.4 acres.

On a County-wide basis, there's Lake Norman with its 520-mile shoreline. It has been estimated that Lincoln County has approximately 50 miles of this shoreline. There are ten free-access facilities provided by Duke Power for boating. Duke Power has also given to the State of North Carolina 1,328 acres of wooded lake front property to be developed into a State Park by the Department of Conservation and Development. This State park will be located near East Monbo on the east side of the lake in Iredell County. These facilities are available to the local inhabitants of the county and helps to make up for the lack of community facilities in Lincolnton.

Proposed Site Locations for Future Parks

The National Recreational Association recommends that one acre be set aside for recreational purposes for each 100 persons in a community. In essence, Lincolnton should have approximately 65 acres set aside for its projected 6,500 population. The Land Development Plan assigns three new sites for future parks for the township.

The town is growing toward the south and northwest and parks have been assigned in these areas. Along the South Fork River there is a park proposed consisting of about 41.6 acres. It is located between Cherryville Highway and State Route 1222 and known locally as Madison Street. The park is proposed to serve about 200-300 persons and should include such equipment as swings, slides and similar playground for small children. The majority of the park will more than probably be geared toward recreation for the more adult people, with fishing, picnicking and nature trails.

The second park site, approximately 17.6 acres, is located in the area of the new proposed elementary school off Poplar Street. This park site will serve about 100-200 people, and include swings, slide, bars and tot lots for small children.

The third park site is tentatively proposed on the north side of town behind the new water plant off Reedsville Road. It could serve as a regional park for the town and county. The tentative schedule will depend on where a possible dam site will be built so that the park will lie along the flood plains of the South Fork River. The park should be relatively large in size (about 94.3 acres) and will consist of fields for baseball, football, basketball, model airplane strips, etc.

General criteria which should be taken into consideration when planning public and quasi-public uses are:

1. The facility should be located to provide the most service for the most people.

2. The facility must be planned to serve different age groups. The different groups have their own needs and desires in terms of equipment and facilities.

3. The facility should be free from congestion, noise, smoke, odors, glare, fire hazards, and should be easily accessible.

Recreation Space Needs

The principal types of parks and playgrounds are:

Pre-school play lots:	5,000-10,000 square feet site to serve an area of 1/4 mile radius.
Neighborhood playground:	10 to 12-acre site to serve an area of 3/4 mile radius.
Community recreation:	20 to 40 acres with a service area of 2 mile radius.
Regional park:	100 acres minimum to serve the entire region.

Acquisition

1. Gifts: Some lands will have to be acquired outright by purchase or gift. A revolving fund set up to buy land for open space in advance of the need has saved large sums in areas where this procedure has been used.

2. Scenic rights or easements: Development rights, acquired by the State or County through purchase, leaving the land in private ownership but subject to certain restrictions on development, may be obtained.

3. Subdivision regulations: A subdivider may be required to dedicate or reserve land for parks, schools and open space. Subdividers are usually willing to make such a dedication because the value of the lots will be increased.

4. Urban renewal: Two-thirds of the net project cost can be contributed by the Federal Government, one-third of the net cost to be paid by the town. Should be used only when private development proves to be unfeasible.

5. Deferred tax arrangement: This would permit taxes to be deferred until sale or development takes place, at which time all back taxes would become due.

6. Zoning: An ordinance might preserve some types of open space through a conservation zone.

Another way of adding land for parks is the park-school concept. Adding land to school sites for large playfields benefits not only the school, but also provides local recreation facilities for the general public. Washrooms and even general purpose rooms in the school building sometimes can be made available to the public. Close cooperation with the School Board is necessary to facilitate such a program.

SCHOOLS

Planning for permanent school facilities requires a long-range approach. The projected population for 1980, along with interviews with the Superintendent of Schools in Lincolnton, provides the basic data for projecting school facilities. The location of schools in a growing town is a demanding problem and school sites should be located before they are needed, or it becomes difficult, if not impossible, for a School Board to obtain the acreage needed for adequate school sites.

The Town of Lincolnton supports six schools -- four elementary and two secondary. A proposed new elementary school, which will handle an enrollment of approximately 360 students, is now under consideration. This school will teach grades 4 through 8.

Table 13 shows existing schools, grades, maximum capacity, existing acres and the proposed acres that each school should have as a minimum.

The North Carolina Department of Public Instruction, Division of Advance School Planning, recommends the following minimum school site sizes:

Elementary Schools: Minimum site size of ten acres for schools with less than 400 students; 12 acres for schools for 500-600 students; and 15 acres for schools with 800 students. Service radius: 1/2 mile.

Secondary Schools: Minimum site size of 12 acres for schools with less than 400 students; 14 acres for 500 students; 16 acres for 600 students; 20 acres for 800 students; 24 acres for 1,200 students; 28 acres for 1,400 students.

Existing school acreages for Lincolnton's schools are quite inadequate except for the proposed new elementary school and the existing Battleground School. Both schools have more than the minimum acreage required.

TABLE 13 Existing School Facilities, Capacity, Enrollment, and Existing and Proposed Site Acres 1964

School	Grade	Capacity	Number of Students	Deficiency or Surplus	Existing Acres	Needed Acres
South Aspen Street School	1,2,3	210	225	-15	5½	4½
Park Elementary School	1,2,3	270	282	-12	3	7
Lincolnton Elementary School*	4,5	300	344	-44	1	9
Battleground School	6,7,8	500	502	- 2	43	--
Lincolnton High School	9,10,11,12	1,000	1,069	-69	6½	16½
Oaklawn Elementary School (non-white)	1,2,3,4,5, 6,7,8	210	191	+19	5	5
Proposed New Elementary School	4,5,6,7,8	360	--	--	25	--
TOTAL		2,850	2,613	--	89	42

*This school is part of the high school across the street.

South Aspen Street School

This school has less than 300 students in it and has only 5½ acres. On the sliding scale, the school is approximately five acres short for adequate recreational needs. Additional land has been added -- but not enough. Some additional land could still be added on the north side of the site. This school is in a desirable location to serve the whole south side of the town.

Park Elementary School

This school has only three acres. It should have approximately ten acres to serve the number of students enrolled.

Lincolnton Grammar School

This school has now become part of the Lincolnton High School. The high school uses two of the classrooms in the building with the fourth and fifth grades. The high school will probably overflow into this building and utilize it to a greater extent. The site, as it now exists, will be adequate for the high school students. The school grounds across the street can be used for recreational purposes. If the School Board plans to keep the site as an elementary school there should be at least five acres added to meet minimum standards.

Battleground School

This school, just recently built, is one of the most adequate in the town. It has plenty of acres and additional rooms could be added to handle any overcrowding. It is suggested that the Town purchase additional acres within this area to form a neighborhood park (school-park concept) if desirable. The town should utilize the existing land to its greatest potential.

Lincolnton High School

This is the only high school in town -- and it is overcrowded and grossly inadequate in site size. It should have at least 22 acres, but presently has 6½ acres. The town should purchase three or four of the residential structures across Academy Street in order to increase the acreage. This would help to serve some of the needs of other citizens who could use the additional land for recreational purposes.

Oaklawn Elementary School

This has been the only non-white school within the city limits. It has five acres of land, but is greatly inadequate for the needs of the students. Title VI of the Civil Rights Act requires that all schools be integrated; therefore, this school should be phased out of existence, because it is so inadequate. If this cannot be done, the School Board should purchase additional land within the area. More land is needed by this school than any of the other schools because it includes grades one through eight and naturally needs more space for daily needs.

Lincolnton city schools are all overcrowded (except Oaklawn Elementary), but only Lincolnton Elementary School and Lincolnton High School are overcrowded to and beyond maximum capacity. Additional classrooms should be added to each facility, or additional land must be acquired. It will be harder to acquire land around the high school since the houses are standard; however, Urban Renewal might be utilized in the area of the Oaklawn Elementary School. If Urban Renewal were undertaken the town could deduct the improvements which have been made on school facilities within the last seven years from its one-third share of the total of the project cost.

Proposed Site Location for Future Schools

Lincolnton's residential areas are not large enough to support any more schools within the present corporate limits. However, the Land Development Plan proposes two future school sites in the fringe area, but it is highly probable that only one will be needed in the initial planning period.

These sites will be preserved for an elementary school and a high school. It is the opinion of the Planning Board that the town will need a new high school long before another elementary school because students will have "freedom of choice" in both the county and town. The new high school is proposed in conjunction with the regional park behind the new water plant off Reedsville Road. The site will contain about 20 to 24 acres and will serve approximately 800 to 1,200 students.

The elementary school site is proposed on the southwest side of town between Cherryville Highway and Madison Road, and close to the proposed park on the east back of the South Fork River. The site proposed contains about 12 acres and should serve approximately 350 to 400 students, if ever needed.

Standards and Principles Used in School Site Proposals

1. School site should be situated in the area in which the growth of the town is taking place.

2. Location should be free from noise, smoke, vibrations or any other use which would be harmful or distracting to the students.

3. The school should be located on an improved road, but not on a major highway.

4. Slopes within the area should not be over 10 to 15 per cent and there should be adequate ground cover, trees and grass.

LIBRARY

The Town of Lincolnton has one library which is located on the north side of town, on the corner of East Pine Street and North Academy Street. This library serves the entire county, plus the town. In actuality, the library is serving as a regional facility in conjunction with Gaston's library system. Financial support comes from Gaston County's regional funds and Lincoln County and the town's revenues.

The library was just recently moved from an inadequate building to the Lincolnton Elementary School. The new site is an improvement over the old site, but still leaves much to be desired in terms of facilities and parking. The biggest problems facing the existing library are the lack of space for books and the inadequate off-street parking facilities.

Circulation statistics were available for the year 1964 showing 21,554 volumes in stock; 41,000 were circulated through the Lincolnton Library and 67,000 through the bookmobile. Services include: inter-library loans, audio-visual aids, 16 m.m. projector and screen, films and film strips, book clubs, PTA reading clubs and other reading clubs for small children. The library is open six days a week from 10:00 a.m. to 5:00 p.m. with future plans to stay open until 9:00 p.m. to accommodate the working citizens of the community.

There has been talk of building a new library; however, bond issues have always been defeated. The town needs a new library and financial help could, more than likely, be secured through the Federal Government. Such funds are available for library construction. The Land Development Plan has set aside a whole city block for all municipal buildings and when the town considers building a central library, thought should be given to placing it within the block of North Flint Street and East Main Street. Possibly another site which could be considered by the town is the area where the elementary school site has been proposed. It is very doubtful that Lincolnton will need another elementary school site. Therefore, this same site could also be considered for the future library. Actually, this may be the best site for there would be plenty of room for off-street parking and landscaping around the new facility.

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PROTECTIVE FACILITIES

Police Department

The Police Department is in charge of investigating crimes and apprehending criminals, preventing crime, traffic control, and acting in cases of emergency to protect the lives and property of the general public.

The present police force employs 13 full-time and three part-time policemen. There are two captains, two sergeants (one in charge of radio operations), three radio operators, and the rest of the force are patrolmen. These men receive training at numerous State schools such as State Patrol School for Traffic, SBI School in Raleigh, and some receive training at the Catawba Valley Institute twice a year. Firing practice is held two or three times a year. The department uses two radio patrol cars and has the use of a third car for auxilliary purposes. This car is also radio-equipped. All cars are equipped with three-way RCA police radios (car-to-car and car-to-police station in City Hall). The present police force is more than adequate for the town's needs. The force is based on the Federal Bureau's standards of one policeman per 500 population. The department could use some additional equipment such as photographic equipment for mug shots and definitely needs additional room. Aside from these two problems, Lincolnton's Police Department is one of the best for small towns under 10,000 population.

Fire Department

Lincolnton's Fire Department is in charge of preserving the lives and property of the town. For this reason the ability of the fire department and quality of the equipment are of the utmost importance. Firemen should be well-trained and readily available to answer a fire call and to fight and extinguish a fire. To fall short in these categories is courting disaster.

Lincolnton has one centrally located fire station within the Central Business District, located off East Main Street, which is out-dated for the town's needs in terms of operating space. Actually, the location of the fire station is in a very poor position, because of the congestion of traffic within the CBD. It is highly recommended that the existing fire station be abandoned and relocated in the vicinity of North Flint Street and East Main Street. This particular town block has been designated for all future municipal buildings. Actually, the future new fire department should face onto North Flint Street. Here it would have access to the new proposed outer loop which runs completely around the Town of Lincolnton. This outer loop ties in with all existing thoroughfares within Lincolnton's planning area. Therefore, this is an ideal location for the fire station. This location would put it in close proximity to some of the old, obsolete manufacturing buildings off South Flint Street and Academy Street. Some of these particular buildings are a real fire hazard for the Town.

There are six full-time employees and 24 volunteer firemen who are all equipped with radio monitors in their homes. All fire alarms are signaled by two-way radios into the homes of these volunteers and also sounded in code by an air horn, which is mounted over the Fire Department. Lincolnton fire fighting equipment is in excellent condition. The town owns four fire trucks. These consist of the following: one 1954 Ford-Howe 500 gallon per minute pumper; one 1961 American LaFrance 1,000 gallon per minute pumper; one 1925 American LaFrance 750 gallon per minute pumper; and one 1952 Aerial ladder truck. These trucks are all in excellent condition. They all have radios, except the Aerial ladder truck, which should have one installed in order to make the fire department more efficient. The town does have a training ground for fire fighting practice. This practice is held at the town storage yard, near the old sewer plant. The Town also has a modern Ward Street alarm system which is well-maintained.

Lincolnton fire protection programs consist of fire prevention drives which are written up in the local newspaper, put on the radio, public education through films, etc. These programs are held twice a year. Inspection records are kept and this data is given to the acting building inspector who then uses this information in condemning buildings. The Town of Lincolnton has secured a fire-rating of 6 from the Fire Insurance Underwriters.

As the town continues to grow, the governing bodies of Lincolnton should think past the 1980 target date in this report and decide where another possible fire station should be located. It is further recommended that the town obtain another site, preferably on the southeast side of town. This is the area where most of the growth is occurring. Such a site should consist of a fire-training tower, paved hose drag area, maneuvering space and equipment and a pit for oil-training fires. The areas should be fenced in for protection of the public and facilities. Such a location should be off U. S. Route 321-A or Gastonia Highway. A fire station located in this area of town would serve the fringe araa as well as this part of town.

In determining new site proposals for fire stations, the following standards and principles were used:

1. The immediate area of a fire station should be free from land uses which make it dangerous for quick take-offs of fire-fighting equipment.

2. Fire stations in the Central Business District should be located away from the retail core area, thereby not only serving the core area, but the surrounding areas as well.

3. Fire stations should be located in those areas where the noise and disturbance from take-offs present the least problems -- preferably located in the warehouse and industrial district.

4. Fire stations should serve roughly 3/4 of a mile for commercial and manufacturing areas; and 1/2 mile for denser residential areas, one and one-half miles to three miles for scattered residential areas.

Rescue Squad

Two rescue squads combined into one are known as "Lincoln County Life Saving and First Aid Crew". This crew is on call 24 hours a day at its headquarters on North Academy Street and has 25 to 30 men who are on stand-by call if they are needed any place in the County. On certain occasions they have helped nearby counties when an emergency arose. The organization was formed in early 1957 to help in such emergencies as: serious highway accidents where additional personnel is needed quickly; missing persons in the County; safety preventive measures and training; qualified first aid instructors for the County; water safety training and recovery programs; and many other emergency situations. The Life Saving Crew has 13 qualified Red Cross First Aid Instructors. The crew is fully equipped with two-way radios and stands ready to serve the Town or County.

During the summer months the crew keeps a team of three men at the squad's cabin on Lake Norman. Two men patrol the lake and assist anyone who runs into trouble on the lake. The Life Saving Crew's equipment consists of two runabout boats used for dragging operations; two station wagons; and one truck with various equipment loaded inside. Some of this equipment consists of electrical generators, metal cutters, diving lungs for under water work, rope, fire extinguishers, and so forth.

The Lincolnton Rescue Squad is quite adequate and will be for some time. The newly constructed in-town headquarters on 322 North Academy Street and the new cabin at Lake Norman will provide sufficient space for future operations or expansions.

Hospitals

The Town of Lincolnton has two privately-owned hospitals, Gordon Crowell Memorial has 100 beds and is located off South Aspen Street. The hospital site consists of approximately five acres with its own off-street parking. The other hospital, Reeves-Gamble, with 35 beds, is located off East Main Street and consists of approximately half an acre, with no off-street parking. Both hospitals maintain surgical, general medical and nursing staffs. However, both hospitals could stand extensive modernization to make them more adequate for the Town and County population.

Under consideration by the County and its various townships and certain civic clubs is a drive for a new Lincoln Community Hospital. This would contain 100 to 160 beds or so, and the planned new hospital would be built in such a manner that future expansion of 50 beds could be done without extensive cost. So far the citizens of Lincolnton voted for the approval of the new hospital, but financial support for the hospital has failed to carry.

County Health Center

The County Health Center is located in a triangle off U. S. Highway 321-A, U. S. Highway 321 Bypass and State Route 1267. The site contains approximately one acre and the existing structure was built in 1958 which is quite adequate for Lincoln County's needs. Services provided by this Health Center are:

--to protect the Town and County from diseases
--to find diseases in their early stages
--to lessen the ill effects of diseases
--to promote the health of mothers and babies
--to promote better health of the school aged child
--to provide a safe and healthful environment for the community
--to increase the life span and promote healthy living of adults
--to keep the public informed and concerned about health matters

In addition to these many services, there are many special services which the County Health Department provides for the community, which are too numerous to mention here. However, since "health is the state of complete physical, mental, and social well-being, and not merely the absence of disease or informity", it must be remembered this particular department works with many other agencies, such as: Juvenile Delinquency, Housing code enforcement people, Stream Pollution, Civil Defense, Community Development and many others.

The existing staff of the Lincoln County Health Department is adequate and it consists of 11 personnel. These 11 personnel consist of the following: one doctor, who is the Health Director, two sanitarians, three public health nurses, one secretary, one dentist, one sanitary engineer, one x-ray technician and one V. D. case finder.

ADMINISTRATIVE FACILITIES

Governmental Center

The County Courthouse, fire station, post office, city hall, medical center, banks and other professional buildings, along with a variety of retail stores, are located in the first three blocks of East Main Street. This particular area, with proper reworking of thoroughfare traffic has unlimited opportunities for development into a combined governmental-institutional center. The Town will, no doubt, build a new City Hall to replace the inadequate and antiquated building now used for daily operations. When that time comes, thought should be given to lining the new City Hall up on the same axis as the County Courthouse to tie the whole complex together from one end to the other with a pedestrian mall or plaza running for the entire three blocks. However, this proposal may be impracticable if traffic circulation and parking proposals do not work out for this particular section of the core area. If this proposal does prove unsatisfactory, the Land Development Plan has set aside a whole city block within the vicinity of North Flint Street and State Street on the east side of town for all future municipal buildings. A governmental center or a governmental-shopping center could be considered an asset to the Town. It would be an efficient, economical relationship of buildings to one another; and would serve as a convenience to the citizens who would be transacting their business within one or two different buildings. The tying together of these buildings would not only provide an identifying feature of urban patterns for Lincolnton, but would also set Lincolnton out as a truly progressive growing town which wants to be recognized.

City Hall

The City Hall of Lincolnton is located off East Main Street. This particular building is an old, two-story frame house which is antiquated and inadequate in terms of space. Within this building most of the town's functions take place. This particular building holds Lincolnton's police department, Chamber of Commerce, Town Clerk, Treasurer, North Carolina License Bureau, and other municipal offices which make Lincolnton function as a town.

The police department is in need of more room in which to operate, as well as the other municipal offices. The enlargements to each staff, their growing record system, plus new equipment, have made it necessary to use all available space within the building. In the future years ahead, as concerning space requirements, the Town will have to make structural alterations in order to handle a growing Town government.

City Garage and Storage Yard

The Town garage and storage yard is located on the southwest side of town, off Motz Avenue, next to the old sewer plant. This site consists of approximately 15 acres and is quite adequate for the storage of the Town's equipment. There are no administrative offices located on the site, only garages and an electrical warehouse, which houses the sanitation department. Most of the Town's equipment is located and maintained here, except for the water department, which is handled at the new water plant off Reedsville Road. The site is felt to be adequate for the Town's standards an there is plenty of room for expansion when the need arises. Plans for the future call for building a new waste treatment plant within the next year which will replace the present out-dated waste treatment plant.

Street System

The Lincolnton street department not only maintains the existing streets, but also sidewalks within the corporate limits. There are nine employees in this department who work with the following work equipment: one road scraper, one bulldozer, one backhoe digger, one tar truck, one front end loader, one tractor mower and three dump trucks. This equipment is quite adequate for the Town' needs, and the equipment is maintained through street assessments based on the Powell Bill Maintenance.

Electricity

The Town of Lincolnton buys its electricity from Duke Power Company at a wholesale bulk rate and resells it through two sub-stations, one on the east side of town and the other on the west side of town, thereby allowing the town to receive revenues which, in turn, help to finance the town's improvements. The location of the electrical warehouse on Motz Avenue is where the town's electrical work is maintained. The town's street lights are installed and maintained by the town. The electrical system and coverage is quite adequate for the town and shall be for many years to come. There are no present future plans or programs underway such as a new sub-station, lighting system, and so forth.

Refuse Collection and Disposal

Refuse collection is provided by the Town of Lincolnton twice a week to all its residences, commercial and industrial establishments. The town does not provide any service outside the corporate limits. The Sanitation Division uses eight men and three trucks, plus one bulldozer. The trucks consist of two garbage packers and one open bed truck. The existing facilities are adequate for the town's needs. However, if the town annexes any great amount of land in the near future, another garbage packer will be needed, plus another employee or two. The Town of Lincolnton disposes of its refuse by sanitary land fill method, perhaps the most common method utilized today. This method has the unique advantage of salvaging unusable land while providing a safe, nuisance-free means of disposing of the town's refuse. This method consists of dumping the refuse in a land fill area, spreading and compacting it, and then covering the refuse with a layer of dirt every day. Layer is piled upon layer until the land fill area is brought up to the level of the surrounding land. Hence, making it an unusable area. Since this land is usually purchased at a relatively low price, it can often be sold at a profit because of its new condition, or the town may find it useful for a public purpose. Therefore, a town may serve two purposes with one operation -- safe disposal of refuse and reclamation of land at a profit. If the land should be sold, the money received could possibly be used to supplement the future cost of the collection and removal of the refuse.

Lincolnton Sanitary Land Fill is located five miles outside the corporate limits on the west side of town off North Carolina Highway 27. The site contains approximately 66 acres. The Town of Lincolnton leases this land, and has just recently released it for another three years. This particular site will be adequate for at least another eight to ten years. There are no current problems or needs with this site. Future plans have also been taken care of by the Town recently purchasing another 25 acres about five miles east of the town. Since the Town of Lincolnton owns the future land fill site on the east side of town, it is suggested that when the site is filled the Town should use this land for a future park or for an industrial location for a future industry, and so forth.

UTILITY PLAN

Public utilities which are supplied by Lincolnton include the water supply and sewerage system. The extent of existing systems is shown on Maps 14 and 15. The Land Development Plan has been developed with a view to minimizing additional loads on these utility systems.

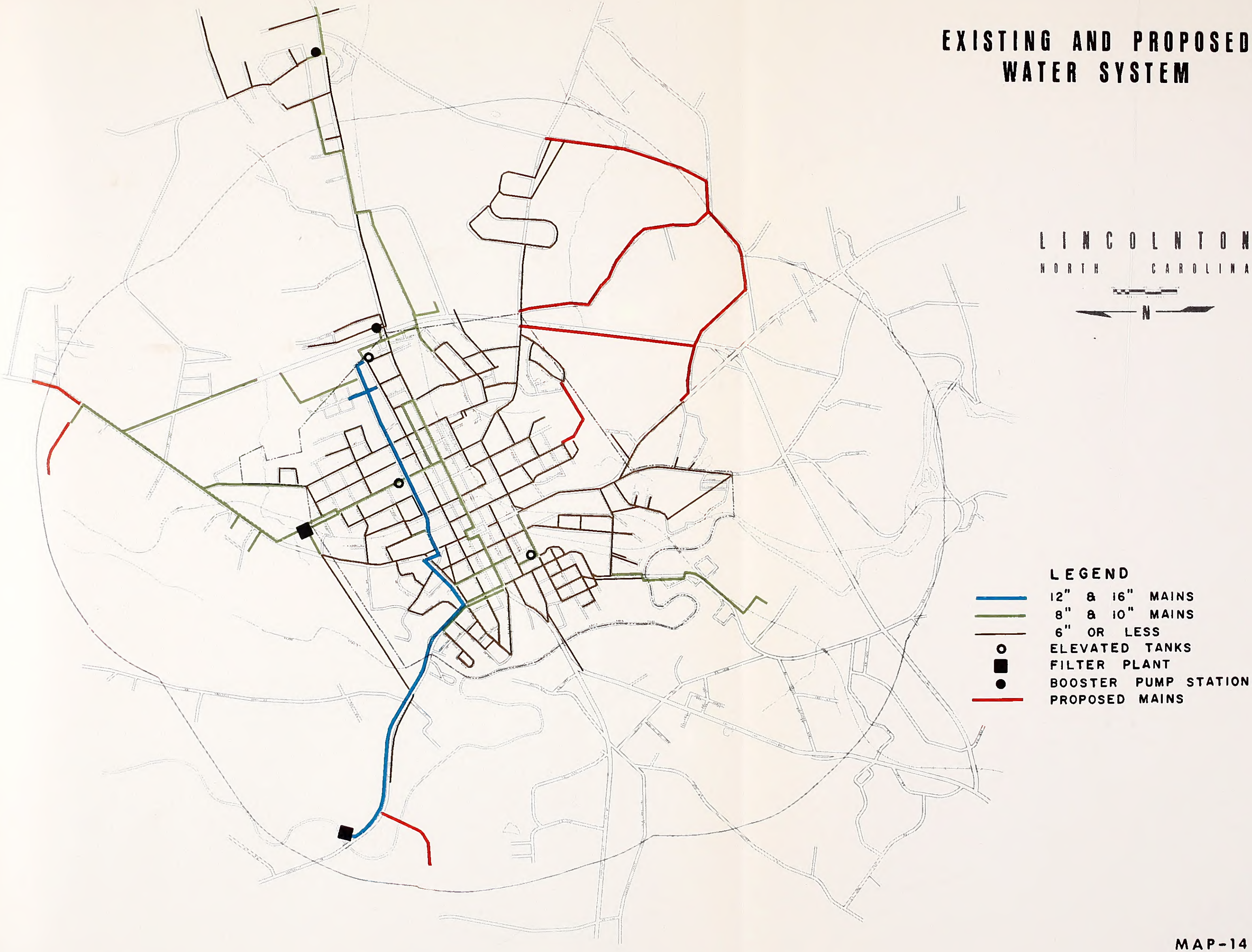
The proposed residential developments lie within areas where it is practical to extend the water supply system without too great a cost to the town. In view of the population trends which are now projected, it does not appear likely that there will be such a great increase in population sufficient to require appreciable adding to the present sources of water.

The new water filtration plant located off Reedsville Road is more than adequate with a capacity of 2,000,000 gallons per day. However, there is a need to upgrade some of the existing trunk lines in the existing system in order to give Lincolnton a more than adequate water system.

Generally, the plan proposed the following trunk lines:

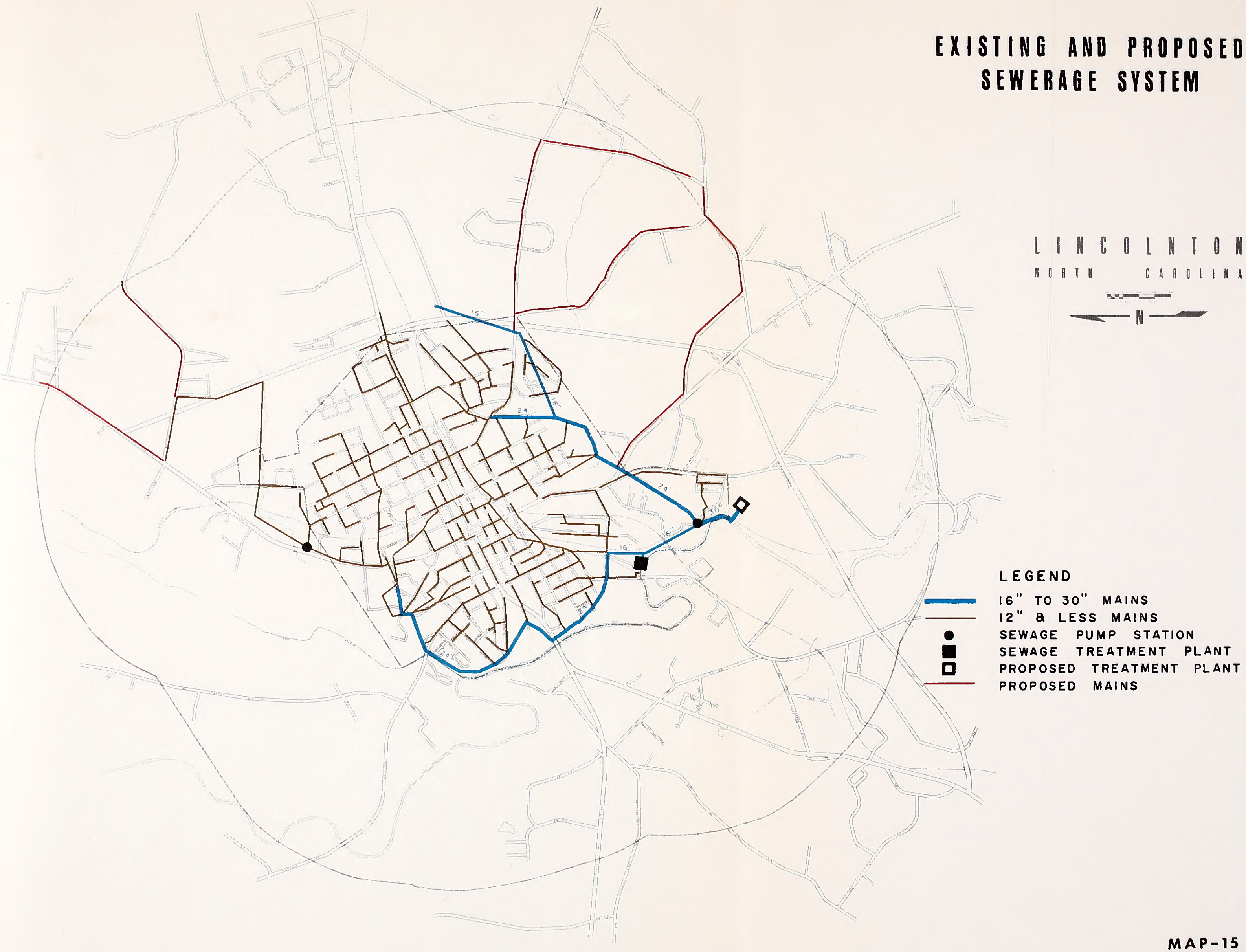
> A main to the industrial park section on the north side of town off U. S. Highway 321-A.
>
> A main continuing down U. S. Highway 321-A to serve future residential areas.
>
> A main to follow the road which will be built to serve the new proposed elementary school. This line should begin at the end of Poplar Street and connect at the intersection of Wendover Drive and Rock Creek Drive.
>
> A large main should replace the privately-owned line now extending down Country Club Road. This area will, more than likely, be annexed in the near future. Parts of this area are now being served by Boger City, but they are doing it with Lincolnton's water, which the town furnishes to Boger City.
>
> A main beginning at U. S. Highway 321 and State Route 1256 to Victory Grove Road.
>
> A main to serve the new Hillin-Dale subdivision. Also, from this subdivision it might be possible to serve the Monte-Vista Subdivision.

EXISTING AND PROPOSED WATER SYSTEM



MAP-14

EXISTING AND PROPOSED SEWERAGE SYSTEM



MAP-15

Sewerage Plan

The proposed sanitary sewer plan is planned to serve Lincolnton and a majority of the perimeter area on a gravity flow system. The plan recommends that those areas lying beyond the corporate limits should be developed at a low enough density to insure the feasibility of private sewage systems.

The following areas have been designated for future sewer service:

> A proposed sewerage disposal plant located on the east bank of the South Fork River with an initial treatment capacity of three million gallons per day and an ultimate capacity (design) of ten million gallons per day.
>
> A proposed trunk line tying into the existing sewage treatment plant, thence running along the right-of-way of the C and NW Railroad tracks, to the new treatment plant located on the east bank of the South Fork River.
>
> A proposed sewer line to serve the industrial park area. This trunk line should continue down Maiden Road to serve future residential areas.
>
> A proposed sewer line down Sigmon Road to serve future industries that may want to locate in this area.
>
> A proposed sewer line around Country Club Road to Victory Grove Road and back to Country Club Road will serve this potential residential area.

As pointed out earlier, it would be unsafe to rely on private sewage disposal where there are more than two dwellings to an acre. Hence, land beyond the corporate limits should have at least half-acre lots where there is a lack of public water and sanitary sewer service. Such areas should be developed with the idea of installing septic tanks for each individual house.

In the design of a subsurface sewage disposal system, it is of the utmost importance to determine whether the soil is suitable for absorbing the septic tank effluent and, if so, what areas of nitrification trench will be required. The percolation rate of the soil must be acceptable, without interference from high ground water table or impervious rock or clay formations below the level of nitrification field.

Generally, two conditions must be satisfied:

1. The percolation time must not exceed 60 minutes per inch as indicated in Table 14.
2. The ground water table should be at least four feet below the surface of the ground. Impervious formations of rock or clay should be at depths greater than four feet below the bottom of the nitrification field.*

Whenever these two conditions are not satisfied in Lincolnton, then the residential site is not suitable for subsurface sewage disposal except for isolated systems.

TABLE 14 DATA FOR DETERMINING NITRIFICATION FIELD REQUIREMENTS FROM PERCOLATION TEST**

Average Time Required for Water to fall one inch (in minutes)	Effective Absorption Area (area in bottom of nitrification trench) in square feet per bedroom[a]
2 or less	50[b]
3	60[b]
4	70[b]
5	80[b]
10	100[b]
15	120[b]
30	180
60	240

[a] A minimum of 150 square feet of effective absorption area shall be provided per living unit.

[b] Effective absorption area should be increased by 50 per cent whenever automatic sequence washing machines are used.

Soils within the Lincolnton fringe area are not the best for adaption to individual septic tanks; therefore, the Town of Lincolnton should develop a policy of requiring developers to tie into the existing or proposed sewer system whenever possible.

The new proposed sewage treatment plant, which will materialize in the very near future, along with the existing new water plant, will put Lincolnton in a favorable position for attracting suitable industries.

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*Residential Sewage Disposal Plants (How to Build and Maintain Them), Bulletin 519, (Revised March, 1960), Page 3.

**Ibid, Page 7.

CIRCULATION PLAN

Lincolnton's street system, as it exists today, has caused many unnecessary conflicts between vehicular and pedestrian traffic in the CBD. Along with these conflicts, portions and composites of streets in some of the study areas are laid out in such an illogical manner that they hinder the circulation of traffic from one area to another. For example, present traffic is forced to go through the CBD in order to reach certain areas on the other side of town. In other cases, local traffic has to go across or use heavily travelled routes in order to reach its destination. This should not be the case. Local traffic should be able to circle or bypass the central area of town without interfering with the traffic in that area.

Even in some of the residential areas local streets were not laid out in an adequate manner so as to encourage the flow of traffic from one area to another. In some cases this would be impracticable because of the type of area the road is serving, but in other cases it would not be so. Past developers of Lincolnton have caused some of these circulation problems because they did not consider the overall circulation patterns of the Town when laying out their subdivisions. Unfortunately, these residential areas will be plagued with the problem until it is corrected. In some cases the topography probably caused a few problems -- but hardly all of them. For example, on the northeast side of town near the Battleground School site the residential streets could have been laid out to serve the flow of residential traffic to a greater degree of efficiency -- plus opening up a few more lots for residential use. Even the odd-shaped blocks and unnecessary curves throughout this area could have been lessened to some extent through more efficient subdivision planning.

The streets in the section of the northeast side of town in the non-white area off Laurel Street could have been laid out to get maximum use of the land. The jog in Gaston Street and Edwards Street, as well as Rhodes and Cedar Streets on the other side of Laurel Street can most likely be attributed to some subdividers who were not concerned with the alignment of streets or the overall circulation patterns of the town. Neither one of these sections is a highly developed residential area -- possible because of the haphazard or poorly-planned streets.

Even the new subdivisions which are springing up outside the corporate limits are not subdivided as well as they could be. For example, the two subdivisions off Country Club Road, on the southeast side of town, could have been planned to utilize the streets to a greater degree, plus getting maximum use from the residential land. This section of Lincolnton is a more exclusive area than some of the other examples.

Once Lincolnton adopts subdivision regulations the town will be able to control haphazard development and will be able to make developers apply certain standards to development. Situations such as those described will continue to occur until action is taken. When the subdivision regulations and zoning ordinance are adopted by the Town of Lincolnton the town will have within its power the tools to better itself.

Annual Average Daily 24-Hour Traffic Volumes on Hard Surface Roads -- 1963

Map 16, Annual Daily 24-hour traffic Volume in 1963, indicates that U. S. 27 and 150 are the heaviest travelled streets with 10,500 vehicles passing at intersections 321 and 150 Bypasses everyday. Approximately 4,350 vehicles use the Bypass 321 and 150 on the southeast of town. Also, 8,300 vehicles circulate on East Main Street within the central core area of Lincolnton. Farther out East Main Street and past Laurel Street there are 8,800 vehicles travelling away from the core area. Laurel Street itself supplies 1,100 vehicles a day to East Main Street. U. S. Route 321-A on the north side of town has approximately 3,300 vehicles and the same road on the south side of town has approximately 4,000 vehicles. Routes 27, 150, 321 and 321-A are the heaviest travelled roads in the town.

AVERAGE DAILY

TRAFFIC VOLUME

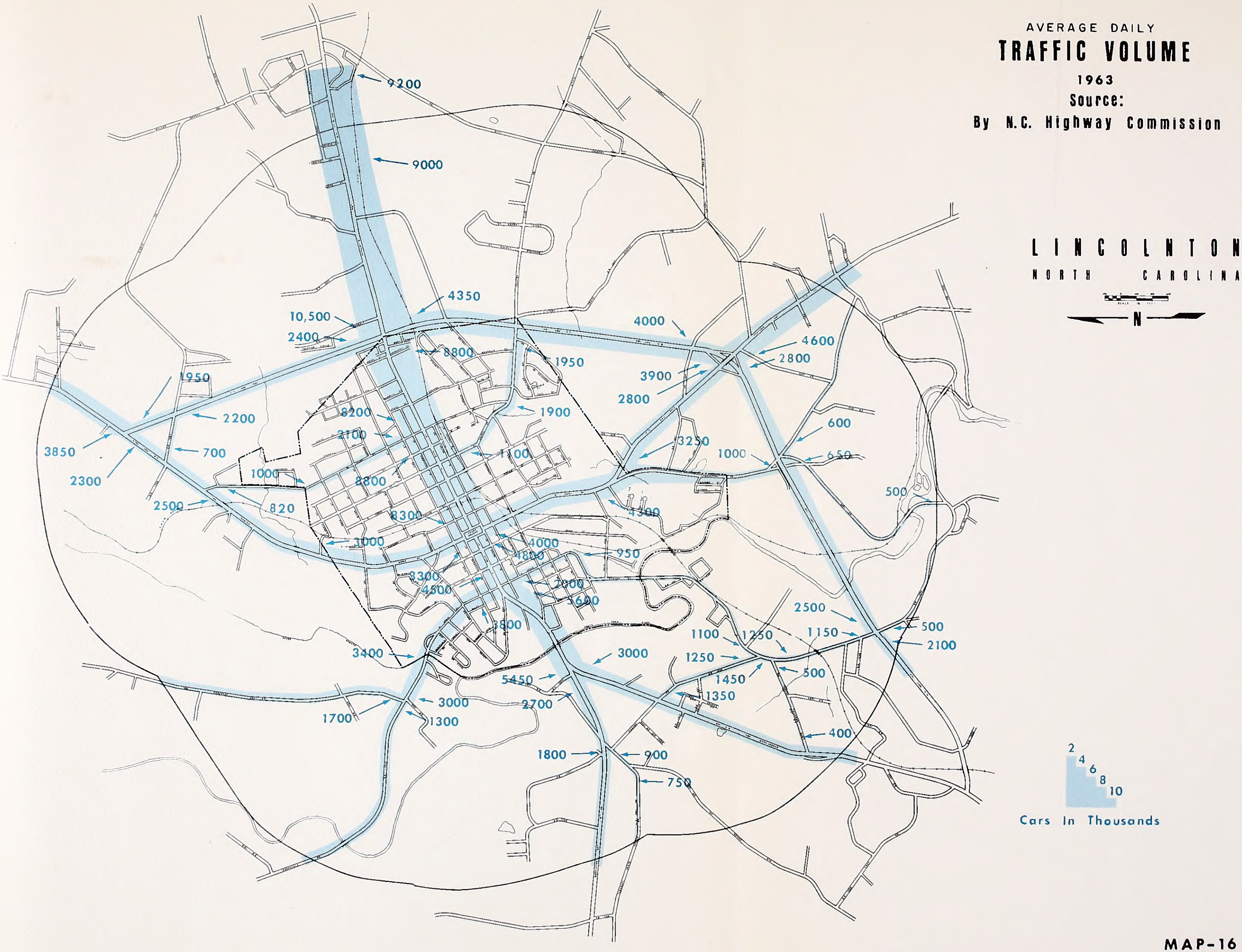
1963

Source:

By N.C. Highway Commission

LINCOLNTON

NORTH CAROLINA



MAP-16

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The function of thoroughfare planning is to provide a circulation system which will serve adequately the anticipated future traffic. Functionally, the circulation system not only provides access for the residents, but also for those who serve the urban areas. Without a well-planned and constructed traffic circulation system a town would soon stagnate and die in its own traffic congestion. Traffic patterns in a town allow people to get around to their jobs, to move goods, and to provide for protective services such as fire, police, ambulance, etc. Physically, the circulation patterns link residential structures to each other; residences to neighborhoods, and neighborhoods to community facilities; and communities to centers of business employment. This being so, the use of land, the size of streets and the patterns of circulation act as boundaries and barriers to the growth of a town. It is essential that a town have a thoroughfare plan so that when the need arises the major streets and roads are set aside within the Land Development Plan.

Some of the major benefits to be derived from thoroughfare planning are:

1. A minimum amount of land will be required for street and highway purposes.
2. Each street can be designed for a particular purpose which leads to stability of traffic and use patterns.
3. Because each street is designed for a particular purpose, a substantial saving can be realized in street construction programs and street maintenance costs.
4. Local citizens will know which streets will be developed as major thoroughfares and thus will be put more at ease by realizing that their residential streets will not one day become a major traffic artery.
5. Land developers will be able to design their subdivisions so that subdivision streets will function in a non-conflicting manner with the overall plan.
6. City officials will know when improvements will be needed and can schedule funds accordingly.

7. School, park, library and fire officials can plan and locate their facilities in desirable places with knowledge of land use and street system stability.

By applying these seven major benefits, a person can bring about planning of the town and the fringe area with greater speed and ease.

The main concept of the thoroughfare plan is to provide for a well-planned system of streets which will permit easy movement of traffic from one point of the town to another. To do this it is necessary that the street system be made up of several different types of streets, each designed to do a certain function.

Residential Service Street

The primary function of these streets is to provide direct access to residential structures, serving only a comparatively small number of dwellings. Traffic is a secondary function of local streets. Through traffic movements can be discouraged by designing these streets as loops or cul-de-sacs (dead-end streets with turn-arounds). Residential service streets also serve to open up spaces between buildings, thus letting in air and light to the adjoining properties and serving as fire breaks.

Neighborhood Feeder Street

Neighborhood feeder streets connect service streets to each other, to community facilities, and to minor traffic arteries. They serve only neighborhood traffic. Parking should be discouraged, and residential buildings should not face onto or have driveways entering the neighborhood feeder street.

Minor Traffic Street

Minor traffic streets connect feeder streets to major traffic streets and to district centers. They are mainly outside of or bounding the neighborhood and serve district traffic. Ideally each class of street should lead into a street carrying the next greater volume of traffic. Hence, residential service streets should lead into neighborhood feeder streets and feeder streets should discharge into minor streets.

Major Traffic Street

Major traffic streets connect cities and major districts of a single city, usually serving large volumes

> of long distance, fast-moving traffic. Streets in this category would include such streets as highways, freeways, etc. These streets should be coordinated with existing and proposed expressway systems to provide for distribution and collection of through traffic to and from neighborhood feeders and the local streets system.

The frequency of intersections of a street should decrease as the traffic volumes increase. This applies particularly to intersections of neighborhood feeder streets with minor or major traffic streets bordering the development. It has been proved over and over that intersections of residential streets with traffic arteries are one of the most troublesome features of residential development from a traffic and from a safety viewpoint. This problem can be solved through proper spacing of the intersections to limit the number of conflicting points.

Idealized Major Thoroughfare System

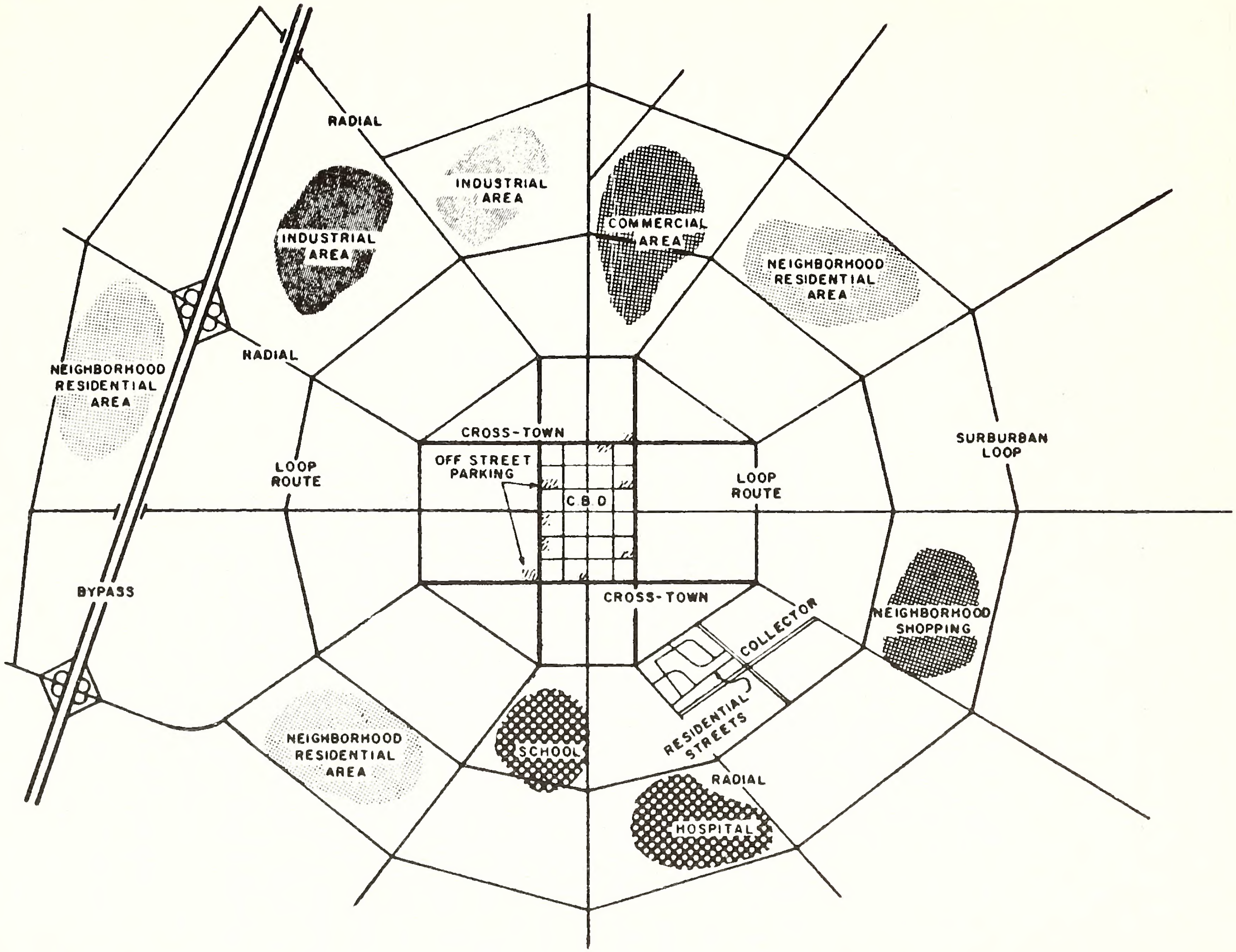
Under the idealized major thoroughfare system, known as the radial loop system, there are four classifications of street systems: radial streets, the cross-town system, and loop system and the bypass. These four street systems have relieved many of the big American cities of congestion within the CBD. Since they have been proved successful for big cities, they most likely can be successful for Lincolnton -- but on a smaller scale. Map 17 shows a concept for an ideal thoroughfare plan.

Radial Streets

The primary purpose of radial streets is to provide for traffic movement between points located in the outskirts of the city and the central area. The economic pull of the Central Business District depends on the movement of traffic from outlying areas. Most towns already have this type of street established.

The Cross-Town System

The purpose of the cross-town system is to relieve the streets of the Central Business District of unnecessary traffic -- traffic which has no destination there. Therefore, the shopping area is then free to function as a pedestrian shopping area, and streets serve mainly for traffic circulation, parking areas, and for loading and unloading of goods and services.



IDEALIZED THOROUGHFARE PLAN

MAP-17

The Loop System

The loop system's main purpose is to carry traffic between suburban areas of the city without having to go through or by the CBD where it would interfere with the central area's traffic. Heavy volumes of traffic are not necessarily carried on the loop system. It relieves congestion in the center of the town and shortens travel time. There can be one or more loops, depending on the size of the urban area. The spacing of the loops is usually one-half mile to two miles apart.

Bypass

The main purpose is to carry traffic through or around the urban area, thereby relieving the city street system by removing traffic which has no desire to be in the town.

Parking

Parking is just as important as the street system in planning for the circulation or thoroughfare plan. Provisions of suitable parking spaces of adequate size is very important in relieving congestion on the town streets. Indiscriminate parking along streets not only slows down traffic, but can be very dangerous at intersections and along curves. Parking must be considered an integral part of the circulation system.

It is essential to provide adequate parking space for residents, visitors and service vehicles in connection with both community facilities and dwellings where community facilities are concerned. Off-street parking should be provided in separate parking lots. Parking for residential areas should accommodate at least one car per dwelling for single-family homes, and one car for one to five dwellings (commonly one or two dwellings for multi-family structures).

Off-street parking takes place in a variety of ways. One which might work for Lincolnton is the surface lot. Others are parking machines, parking buildings, subsurface buildings, and ramp parking. Most cities have found municipal regulation of off-street parking lots very desirable and profitable. Therefore, this might be a solution to Lincolnton's parking problems.

Based on the criteria within this section, the proposed thoroughfare plan was derived through the joint efforts of the Lincolnton Planning Board, Division of Community Planning, North Carolina Department of Conservation and Development, and Advance Planning Department, North Carolina State Highway Commission. Map 18 illustrates Lincolnton's Sketch Thoroughfare Plan. (Note: This map has not been officially adopted by the Town.)

TABLE 15 Projected Minimum Street Standards Lincolnton Planning Area

	Right-of-way Widths in feet	Pavement Width in feet****
Major Thoroughfare	100-80*	54
Bypass	120	92**
Residential Collector	60	45
Local or Minor Residential	50	37
Cul-de-sacs	50	32
Streets located within the city's one mile perimeter area	60***	37

*80 feet acceptable, but 100 feet desirable.
**44 feet median strip.
***60 feet is the minimum size State Highway Department will maintain.
****measured back-to-back of curb.

Outer Loop

This is designed to carry traffic from one area to another area in Lincolnton, thereby relieving the congestion within the core area. The outer loop for Lincolnton consists of the following: on the northeast side of town the outer loop starts off at the end of Flint Street and cuts across U. S. Route 321-A, just past the Armory on this road. It then passes through the extreme north side of Lincolnton and ties into Startown Road. Here it cuts across Reedsville Road and continues on the northwest side of town and crosses over the South Fork River until reaching Morganton Highway, also known as N. C. 27; here it cuts across N. C. 27, Church Road; Cherryville Highway, known as N. C. 150;

SKETCH THOROUGHFARE PLAN

By N.C. Highway Commission

LINCOLNTON

NORTH CAROLINA

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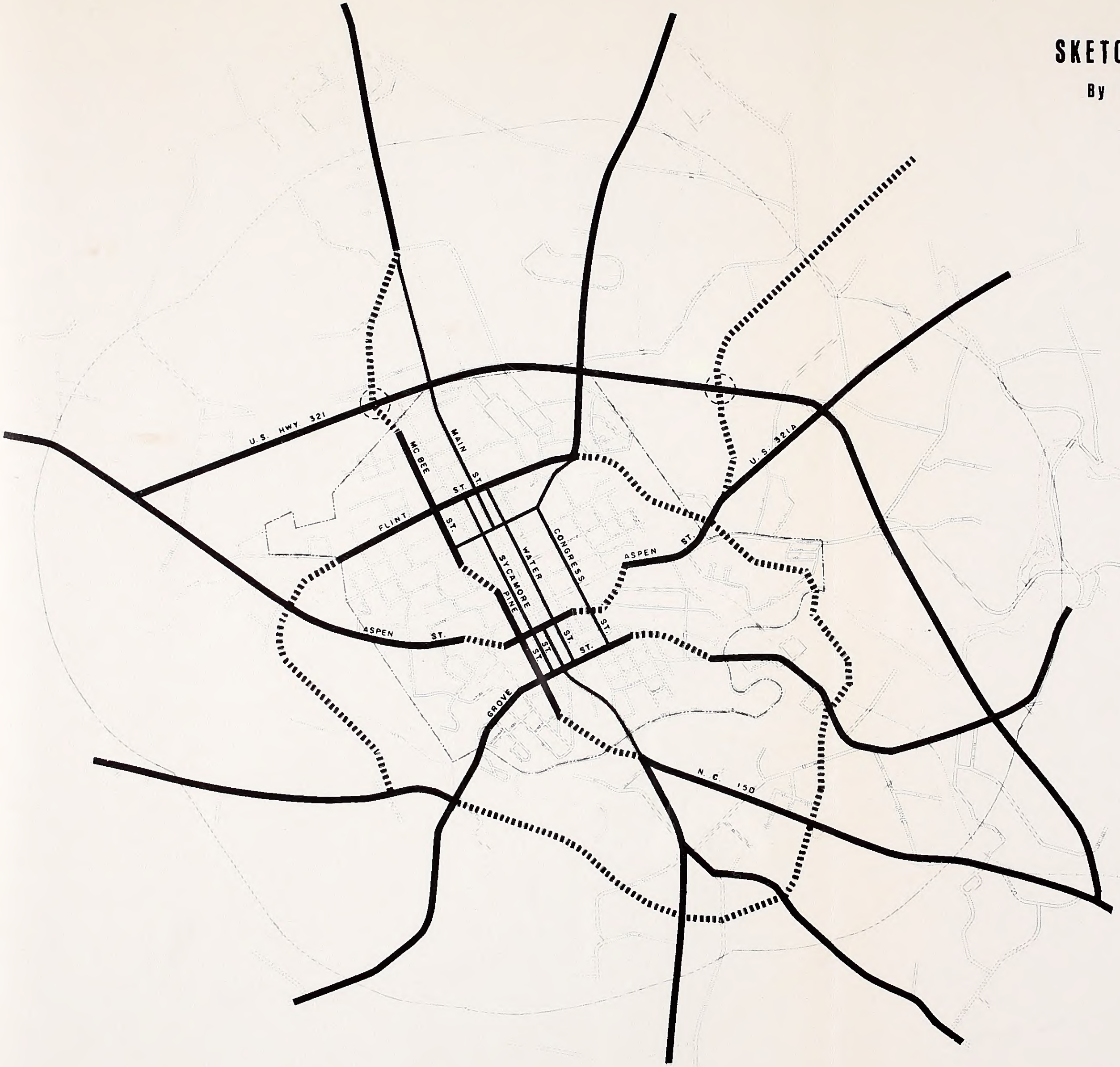


LEGEND

MAJOR THOROUGHFARE	
EXISTING ALIGNMENT	▬
NEW ALIGNMENT	▮▮▮▮▮▮
MINOR THOROUGHFARE	
EXISTING ALIGNMENT	─
NEW ALIGNMENT	········
PROPOSED INTERCHANGE	╋

MAP-18

Madison Street; Aspen Street, or 321-A, and finally ties back into South Flint Street, thus completing the outer loop for Lincolnton.

Central Business District Loop

It is designed mainly to move traffic around the core area and to separate the automobile from the pedestrian traffic as much as possible. This particular proposal has been given under the commercial development of this report. (See Map 11.)

Other Thoroughfare Proposals -- designed in general

- --realignment of Madison and Grove Streets in order to straighten out dangerous curves on these streets.
- --proposed new alignment for North and South Aspen Streets to North and South Government Street. This would help to relieve the congestion around the courthouse.
- --relocation of U. S. 321-A to the southeast of the existing facility. A proposed interchange for this facility tying in with U. S. 321 and N. C. 150 Bypass. The new facility will eventually tie back into South Aspen Street just below State Route 1258.
- --a proposed new alignment for N. C. 27 and 150 on the north side of Lincolnton starting on the northeast side of town before State Route 1200 and tying in with a proposed interchange with U. S. 321. This road then ties in with existing McBee Street and eventually cuts across to Pine Street between the blocks of North Cedar and Poplar Streets. At the end of Pine Street the new proposed facility cuts across diagonally, to the existing N. C. 27 and 150. This new facility is proposed to handle the heavy volumes of traffic within the central core area in the future years.

Bridges Proposed

Bridges are recommended in areas where railroads and roads cross at grade levels. Also, bridges are recommended where rivers, creeks or major grade separations occur in the topography of the land. The following bridges are recommended:

- --on the northeast side of town, a bridge is proposed for the outer loop where the creek flows under the proposed thoroughfare.

--on the north side of town a bridge is proposed for the outer loop where Clarks Creek flows under the proposed thoroughfare.

--on the west side of town a bridge is proposed for the outer loop where the South Fork River flows under the proposed facility.

--on the southwest side of town a bridge is proposed for the South Fork River which flows under the proposed facility. This bridge should also be made large enough to go over the existing C and NW Railroad.

Procedures in which the Thoroughfare Proposals of the Plan may be Implemented

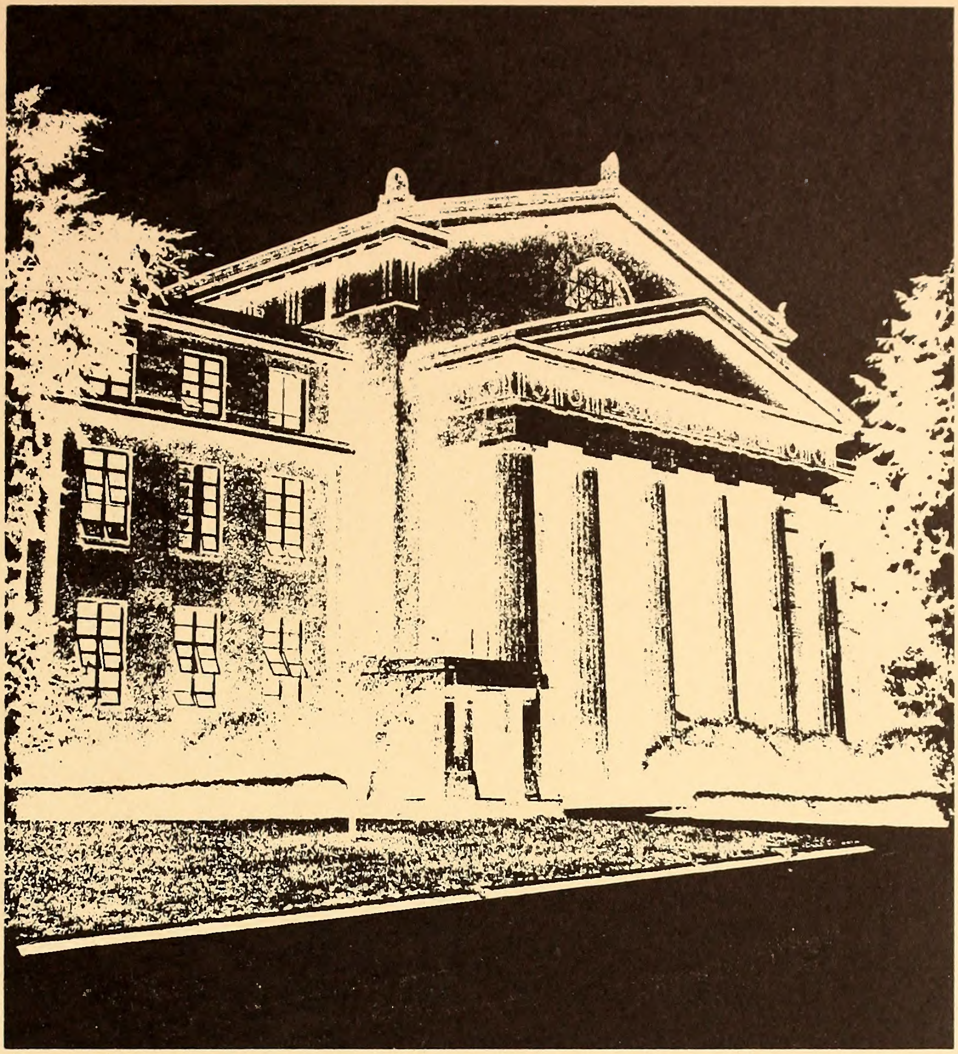
--long-range programming of improvements whereby cost will be met by the town with a certain percentage from the State.

--acquiring rights-of-way by the town and the State in those areas where it will not be possible to obtain rights-of-way by dedication.

--requiring subdivision plats by the use of subdivision regulations to conform with the Land Development Plan.

--the establishment of building line setbacks.

--by understanding the thoroughfare plan and by realizing where and when necessary street widening and construction should occur.



LINCOLNTON, NORTH CAROLINA

IMPLEMENTATION OF THE PLAN

CHAPTER V

IMPLEMENTATION OF THE PLAN

The Land Development Plan by itself has little value if it is going to be shoved into a corner or put onto some shelf to gather dust. The Land Development Plan is a long-range guide for the Town of Lincolnton. It cannot be accomplished all at once -- it must be accomplished through the help of everyone in the town and by the citizens conforming to land use codes. Such codes are usually restrictive in character and control the physical development of the community by placing limitations upon the use one may make of his property. The plan can be implemented by private citizens who erect buildings or use their land in conformity to the Land Development Plan. In other instances, the plan may be put into effect by direct action of government agencies when the town constructs a public building or undertakes a slum clearance program. Plan implementation by direct action of government rests mainly on the powers of eminent domain, taxation and appropriation.

It must be remembered that the Land Development Plan is not necessarily a single document, report or map. It may consist of maps, reports, lists of proposed public improvements, and various other forms of plan presentation. The Land Development Plan is ever-changing and never complete, therefore, it must be updated from time to time to meet the changing needs of Lincolnton. In this way, the Plan will have an excellent chance of being a real force in the development of Lincolnton.

If the Plan is to become a reality, the following procedures and tools should be adopted:

Citizen Participation

It is essential that public officials get citizen participation, for people are more likely to be interested in matters they understand or in which they feel a sense of personal participation and responsibility. Whenever it is possible, public officials should draw interested citizens into certain phases of development within the Land Development Plan. These participating citizens will tend to get other interested people involved in certain aspects of the Plan. Citizen participation will pay dividends to the town through getting the Plan implemented. Some ways of getting participation are:

A. Meetings
B. Hearings
C. Debates
D. Press, Radio and TV
E. Schools, etc.

The majority of the total cost of implementing the Plan will be a private responsibility. Hence, the town can obtain a better working relationship with private citizens, developers, and industrial corporations, etc., if the town encourages the wide-spread understanding and acceptance of the Plan and its objectives than if it relies entirely on formal means of control.

Public Education

Educating the public to the role they play in bringing about the Land Development Plan is very important, for it awakes the public to the different advantages that planning can hold for their town. It makes people aware of the town's goals, therefore brings about the desired results. Many of the deficiencies in towns today result from not educating the public to the overall program, and so forth.

LEGAL TOOLS

Zoning

Zoning is the key to the fulfillment of the Land Development Plan. It is a legal tool for translating the Land Development Plan into reality. Zoning comes under the police powers, and through these police powers zoning seeks to enlarge the freedom of the greatest number of people in the community by restricting the inconsiderate use of private property. The zoning ordinance assures the proper development of the land of the community by the establishment of homogeneous districts and the protection of of these districts from adverse conditions. The zoning ordinance should be revised periodically in order to assure the development of the Land Development Plan.

Zoning is not to be considered as a substitute for planning, nor should it represent the ultimate goal of planning. It is but one of the many tools of planning which can bring about the implementation of the Land Development Plan with other legal devices.

Subdivision Regulations

Subdivision regulations, along with zoning, provide the town with one of the most effective methods for developing an adequate pattern of land use. A town does not necessarily lay out its own streets. They are built by private developers who must tie them into the existing street system. The developer may be required to construct, according to town specifications, the necessary street pavement and sidewalks and install the necessary fire hydrants, water mains, sewer and drainage lines, street lighting, and certain other facilities as a condition of plat approval.

It may be reasonable also, depending upon the size of the development, to require the developer to dedicate not only streets, but also areas for parks, playgrounds, and sites for other public facilities and buildings. Proper subdivision control gives protection to the subdivider by insuring equal treatment, discouraging land speculation, and giving protection from a competitor who might otherwise develop a nearby area without complying with minimum standards.

Building and Housing Codes

Plan implementation is directly concerned with adoption and enforcement of a number of building and housing codes enacted for the purpose of safeguarding public safety and health through the regulation of building construction, building use and maintenance. Building codes are designed to make sure that a structure is sound from an engineering viewpoint. The requirements are that a structure must be built adequately to provide for fire and gas protection, ventilation and the necessary strength to avoid collapsing.

Building codes are classified into two types -- specification and performance. The specification type of code sets forth in detail the minimum standards to be followed by the builder, architect, or engineer. The performance code states the conditions to which the building may be subjected. Housing codes are designed to protect the occupant of the structure by the following ways:

1. to insure that there will not be over-crowding ;
2. to provide adequate separate sanitary facilities;
3. to provide adequate light and air;
4. to provide adequate human environment by arrangement and design of rooms;
5. to provide for adequate electrical wiring and proper heating in the structure, and so forth.

PERSUASIVE TOOLS

Planning Board Review or Board of Adjustment

This is where planning and zoning are reviewed for cases of undue hardship to individual property owners. It is also a very persuasive tool in reviewing and pointing out the basic reasons why the land is planned and zoned as it is, as well as giving relief to property owners who are being treated unfairly from others due to the existing zoning.

DIRECT ACTION

Traffic Engineering

No single factor has a greater impact in bringing about the Land Development Plan than planning and opening of proposed streets and roads. The traffic engineer of a local town can bring about the implementation of the Plan by widening, paving, and opening up streets and roads within the town. Hence, it can be seen how traffic engineering on a local scale can affect the physical plan.

Public and Capital Improvements Programming

The different proposals pointed out in this report must be financed if they are to become a reality. The public improvements program identifies and lists all public improvements that will be needed during the planning period, generally 20 years. Public improvements scheduling is based upon three criteria. First, the proposed projects must be selected on the basis of community need. Second, the projects must be developed within the financial resources of the town, based on a sound financial plan. Third, the program must be kept flexible through periodic review and revision.

A capital improvements budget will show where the money will come from, the priority of the proposals, the cost of the improvements and the relationship of the particular project to the city's overall financial plan. Therefore, long-range programming for Lincolnton would show the citizens:

1. What the money was being spent on, where it came from, and why logically desired projects could not be carried out as quickly as they would like.
2. It would also help the Town Board and public bodies to see the overall improvement needs.
3. Also, from a political standpoint, the programming procedure may afford the public official a certain degree of protection from pressure groups seeking to secure approval of their pet projects.

FEDERAL PROGRAMS

Urban Renewal -- Redevelopment

Urban renewal is a responsibility of both government and private enterprise. Its concept is based upon the utilization of the powers of government to achieve goals of social and economic betterment, which at the same time provides an opportunity for private investment, development and ownership. Urban renewal should only be used when private action has proved to be unsuccessful. The primary objectives of urban renewal are the clearance of slums, the removal of blight, and the elimination of their causes. Under urban renewal, grants are made on a one-third local, two-thirds Federal basis. In some particular cases, cities or towns may receive as high as three-fourths Federal and one-fourth local. In order for a city or town to qualify for Federal aid in urban renewal it must establish a workable program. This workable program would consist of:

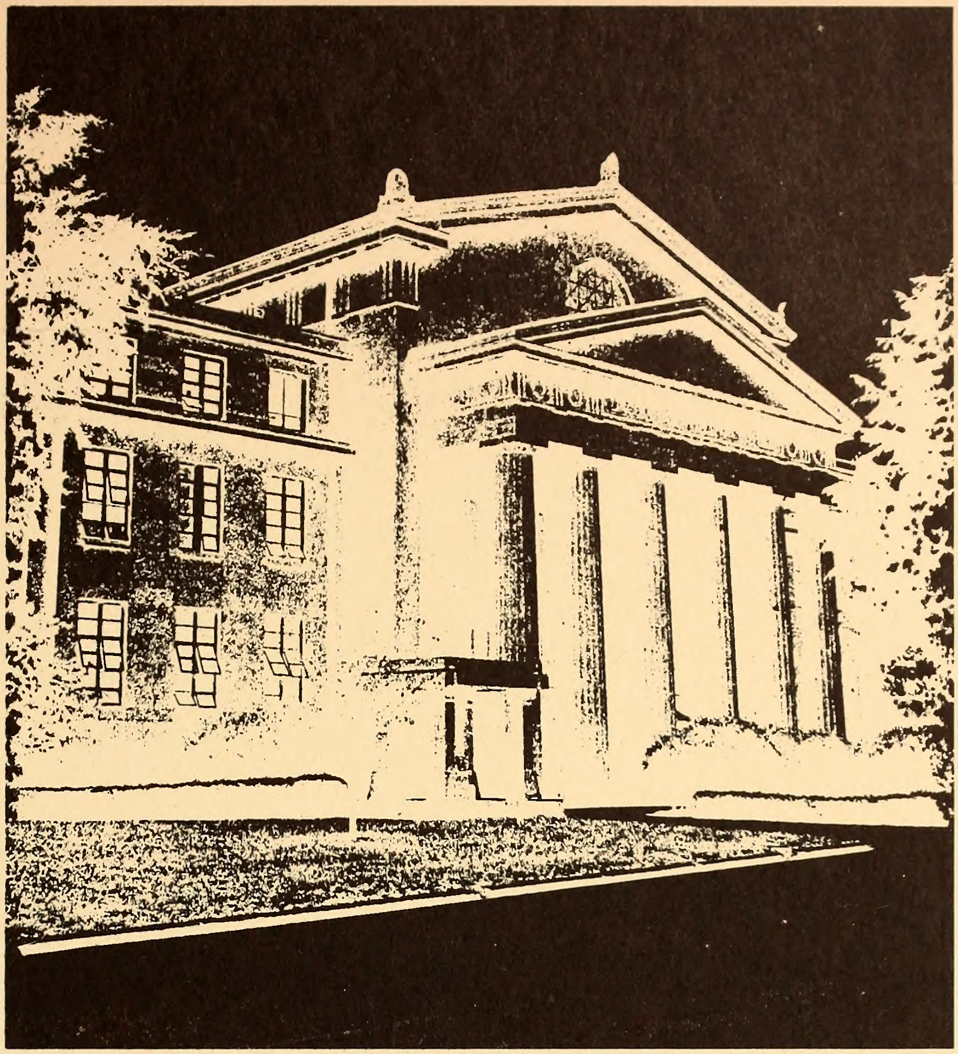
1. Adequate local codes and ordinances effectively enforced -- or the prospect of adopting such codes and ordinances.
2. A Land Development Plan for the development of the whole community.
3. An analysis of blighted neighborhoods recommending whether the appropriate treatment is conservation, rehabilitation, or clearance and redevelopment.
4. Adequate administrative organization to carry out the program.
5. The ability to meet financial obligations and requirements of the program.
6. Responsibility for adequately rehousing all displaced families through urban renewal.
7. Evidence that the program has been prepared with citizen participation.

Public Housing

This is another means of eliminating slum areas. Slum areas are usually inhabited by people of a lower income group who cannot afford decent, adequate housing. Public housing affords these groups good housing at a low rent, based on their incomes.

Open Space Provisions

Under the open space provisions of the Housing Act of 1961 grants are provided for public acquisition of land for parks and recreational purposes. The Federal Government will pay approximately 20 to 30 per cent of the cost. However, a grant such as this is but one way of implementing the recreation plan of the Land Development Plan.



LINCOLNTON, NORTH CAROLINA

SUMMARY

SUMMARY

PLANNING -- A CONTINUOUS FUNCTION

The Land Development Plan is intended to provide a flexible guide for the future development of the Lincolnton Planning Area. The Plan is flexible since it is not possible to foresee all circumstances which will affect future growth. Consequently, it may be necessary to modify the goals and objectives of the Land Development Plan.

In addition to this, the scope of this plan provides for only a certain level of planning. When actual projects are undertaken, it will be necessary to provide a more detailed evaluation, particularly in view of time intervals involved.

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